UNIVERSITY OF J. J. STROSSMAYER IN OSIJEK

FACULTY OF ECONOMICS IN OSIJEK

CROATIAN ACADEMY OF ARTS AND SCIENCES
The Institute for scientific and art research work in Osijek

UNIVERSITY IN MARIBOR
Faculty of Economics and Business

UNIVERSITY IN TUZLA
Faculty of Economics in Tuzla

7. Međunarodni znanstveni simpozij
GOSPODARSTVO ISTOČNE HRVATSKE - VIZIJA I RAZVOJ

7th International Scientific Symposium
ECONOMY OF EASTERN CROATIA - VISION AND GROWTH

ISSN 1848-9559
9 771848 955005

Osijek, 2018.

SVEUČILIŠTE J. J. STROSSMAYERA U OSIJEKU	EKONOMSKI FAKULTET U OSIJEKU	HRVATSKA AKADEMIJA ZNANOSTI I UMJETNOSTI Zavod za znanstveni i umjetnički rad u Osijeku	UNIVERZA V MARIBORU Ekonomsko-poslovna fakulteta	UNIVERZITET U TUZLI Ekonomski fakultet u Tuzli
UNIVERSITY OF J. J. STROSSMAYER IN OSIJEK	FACULTY OF ECONOMICS IN OSIJEK	CROATIAN ACADEMY OF ARTS AND SCIENCES The Institute for scientific and art research work in Osijek	UNIVERSITY IN MARIBOR Faculty of Economics and Business	UNIVERSITY IN TUZLA Faculty of Economics in Tuzla

7.
MEĐUNARODNI ZNANSTVENI SIMPOZIJ
GOSPODARSTVO ISTOČNE HRVATSKE – VIZIJA I RAZVOJ

7th
INTERNATIONAL SCIENTIFIC SYMPOSIUM
ECONOMY OF EASTERN CROATIA – VISION AND GROWTH

Pokrovitelj: / Under the auspices of:

MINISTARSTVO GOSPODARSTVA RH

MINISTRY OF ECONOMY
OF REPUBLIC OF CROATIA

U Osijeku, 24. – 26. svibnja 2018.
Osijek, 24th – 26th May 2018

Nakladnici / Publishers
Sveučilište Josipa Jurja Strossmayera u Osijeku
Ekonomski fakultet u Osijeku

Za nakladnike / For the publishers
Prof. dr. sc. Anka Mašek Tonković, Ekonomski fakultet u Osijeku
Izv. prof. dr. sc. Boris Crnković, Ekonomski fakultet u Osijeku

Programski odbor / Programme committee
Izv. prof. dr. sc. Boris Crnković, predsjednik, Ekonomski fakultet u Osijeku
Prof. dr. sc. Peter Warrian, Kanada
Prof. dr. sc. Marko Backović, Srbija
Professor emeritus prof. dr. sc. Dražen Barković, Hrvatska
Prof. dr. sc. Samo Bobek, Slovenija
Prof. dr. sc. Saša Bošnjak, Srbija
Prof. dr. sc. Małgorzata Gajos, Poljska
Prof. dr. sc. Peter J. Halls, Engleska
Dr. sc. Dražen Kušen, Hrvatska
Dr. sc. Safet Kozarević, Bosna i Hercegovina
Prof. dr. sc. Szerb Laszlo, Mađarska
Prof. dr. sc. Alessio Lokar, Italija
Prof. dr. sc. Zsolt Lukáč, Slovakia
Prof. dr. sc. Dragan Milanović, Hrvatska
Professor emeritus prof. dr. sc. Stanislav Marijanović, Hrvatska
Akademkinja prof. dr. sc. Vlasta Piližota, Hrvatska
Prof. dr. sc. Bodo Runzheimer, Njemačka
Professor emeritus prof. dr. sc. Slavica Singer, Hrvatska
Prof. dr. sc. Franz Wurm, Austrija
Prof. dr.sc. Zlata Živaković Kerže, Hrvatska

Organizacijski odbor / Organizing Committee
Prof. dr. sc. Anka Mašek Tonković, predsjednica, Ekonomski fakultet u Osijeku
Katica Križanović, univ.spec.oec., koordinatorica, Hrvatska
Izv. prof. dr. sc. Sunčica Oberman Peterka, Hrvatska
Izv. prof. dr. sc. Mirela Alpeza, Hrvatska
Doc. dr. sc. Dražen Ćućić, Hrvatska
Doc. dr. sc. Anamarija Delić, Hrvatska
Doc. dr. sc. Nataša Drvenkar, Hrvatska
Doc. dr. sc. Aleksandar Erceg, Hrvatska
Doc. dr. sc. Ivana Fosić, Hrvatska
Doc. dr. sc. Ljerka Sedlan König, Hrvatska
Izv. prof. dr. sc. Ivo Mijoč, Hrvatska
Doc. dr. sc. Julia Perić, Hrvatska
Doc. dr. sc. Tunjica Petrašević, Hrvatska

Urednici / Editors
Prof. dr. sc. Anka Mašek Tonković, Ekonomski fakultet u Osijeku
Izv. prof. dr. sc. Boris Crnković, Ekonomski fakultet u Osijeku

Tehnička podrška / Tehnical Support
Katica Križanović, PhD student

Recenzenti / Reviewers
Professor emeritus prof. dr. sc. Slavica Singer, Hrvatska
Prof. dr. sc. Anka Mašek Tonković, Hrvatska
Izv. prof. dr. sc. Ivo Mijoč, Hrvatska

Prijevod / Translation and reader
Igor Barišić, prof.
Vlatka Vekić, sudski tumač i prevodilac
Xinyu Yang, prof.

Tisak / Print
Studio HS internet d.o.o., Osijek

Dosadašnji zbornici radova indeksirani: / Proccedings indexed in:

Web of Science®

ISSN 1848-9559

7. MEĐUNARODNI ZNANSTVENI SIMPOZIJ
GOSPODARSTVO ISTOČNE HRVATSKE – VIZIJA I RAZVOJ

7th INTERNATIONAL SCIENTIFIC SYMPOSIUM
ECONOMY OF EASTERN CROATIA – VISION AND GROWTH

Sadržaj / Content

Predgovor

Sedmi Međunarodni znanstveni simpozij „GOSPODARSTVO ISTOČNE HRVATSKE - VIZIJA I RAZVOJ“ je platforma koja će i ove godine okupiti eminentne znanstvenike, doktorande kandidate i lidere da iznesu nove ideje i stručne preporuke u rješavanju značajnih ekonomskih izazova. Znanstveni simpozij se održava u vrijeme mogućeg zaokreta (engl. *turning point*) kada postoje indikacije vidljivog napretka, pozitivnog zaokreta u gospodarskom razvoju. Pojedine tvrtke dobivaju nagrade i priznanja za uspješan rad i razvoj; javljaju se novi poduzetnici; poljoprivreda pronalazi svoj plasman; te postoji nada za izgled porasta zaposlenosti.

Ali kako „od dobrog uvijek treba težiti boljem“, nastojati ćemo ponovo, uvijek, i svake godine tražiti od sudionika nove analize, nove prijedloge i vizije u pokretanju razvoja.

Ovogodišnji nobelovac za ekonomiju Richard Thaler u poveznici između ekonomskih i psiholoških analiza, indirektnom sugestijom izbora usmjerava donošenje pravih odluka (engl. *nudging*), koje mogu pokrenuti čitavu naciju.

Najvažniji aspekt njegovoga rada je „to što pokazuje da su ekonomski akteri ljudi“. Kako mi imamo potencijala u ljudskom kapitalu, ulaganje u njihova postignuća i pametne specijalizacije, s primjenom suvremene tehnologije u proizvodnji i preradi, trebaju biti svjetla točka za razvoj u budućnost.

Istočna Hrvatska ima potencijale višestrukog razvoja, uz prirodne resurse, primarne proizvodnje, tradicionalnih ekoloških proizvoda hrane i gastro ponude, arheološka nalazišta, kulturne spomeničke i sakralne baštine koje nisu dovoljno iskorištene. Poznata lječilišta su idealna za razvoj zdravstvenog turizma, rijeke Drava, Sava i Dunav, Kopački rit – jedini sačuvani prirodno netaknuti rezervat i nacionalni park u Europi, mogu biti atraktivna turistička ponuda, što treba iskoristiti u planiranju razvoja. Organiziranom ponudom, možemo postati poželjne turističke destinacije, čija sezona traje cijelu godinu.

Svi radovi koji pristignu na ovaj Simpozij i budu nakon recenzije prihvaćeni, trebali bi kreirati “nudge”, pomoćni materijal koji bi mogao usmjeriti donošenje uspješne dugoročne politike ekonomskog razvoja, kako istočne Hrvatske, tako i cijele RH.

Prof. dr. sc. Anka Mašek Tonković

Foreword

The seventh International Scientific Symposium “ECONOMY OF EASTERN CROATIA - VISION AND DEVELOPMENT” is a platform that will gather this year eminent scientists, doctoral candidates and leaders to present new ideas and expert recommendations in addressing significant economic challenges. The Scientific Symposium is held at the time of a possible turning point, when there are indications of visible progress, a positive turnaround in economic development. Certain companies are awarded and recognized for their successful work and development, new entrepreneurs emerge, agriculture finds its placement, and there is a hope for employment growth.

But, since “we always need to strive for the better”, we will try, year and year again, to ask participants for new analyses, new suggestions and visions to launch the development.

This year's Nobel Laureate for Economics Richard Thaler in the link between economic and psychological analysis, through indirect suggestion of choices nudges towards making the right decisions, which can trigger the whole nation.

The most important aspect of his work is “that it shows the economic stakeholders are people”. Since we have a potential in human capital, investing into their achievements and smart specialization, and applying modern technology in production and processing, should be a bright spot for future development.

Eastern Croatia has got multiple development potentials, along with natural resources, primary production, traditional organic food products and gastronomical offerings, archaeological sites, cultural, monumental and sacral heritage which have not been sufficiently used thus far. Famous health resorts are ideal for development of health tourism, Drava, Sava and Danube rivers and Kopačkirit - the only preserved and untouched nature reserve or national park in Europe, can be an attractive tourist offer, which should be used in development planning. We can become attractive tourist destinations, whose season lasts the whole year, if we make an organized offer.

All papers arriving at this Symposium, and accepted upon review, should create a “nudge”, additional material which could direct the successful long-term economic development policy, both of eastern Croatia and of the whole of Croatia.

Anka Mašek Tonković, PhD.

Einführungswort

Das siebte internationale wissenschaftliche Symposium „WIRTSCHAFT OSTKROATIENS – VISION UND ENTWICKLUNG“ ist eine Plattform, die auch in diesem Jahr eminente Wissenschaftler, Doktoranden und Führungskräfte zusammenbringen wird, damit sie neue Ideen und fachliche Ratschläge für das Lösen der wesentlichen wirtschaftlichen Herausforderungen vortragen.
Das wissenschaftliche Symposium findet zum Zeitpunkt einer möglichen Wende (englischsprachig: *turningpoint*), zu dem es Hinweise auf einen sichtbaren Fortschritt und eine positive Wende in der Wirtschaftsentwicklung gibt, statt. Einzelne Firmen erhalten Auszeichnungen und Anerkennungen für ihre erfolgreiche Arbeit und Entwicklung; neue Unternehmer erscheinen; die Erzeugnisse der Landwirtschaft werden vermarktet; es gibt Hoffnung auf die Erhöhung der Zahl der Beschäftigten.
Aber, da man „nach dem Erzielen des Gutens nach dem Besseren streben soll“, werden wir wieder, immer und jedes Jahr von den Teilnehmern neue Analysen, neue Vorschläge und Visionen auf dem Gebiet der Anregung der Entwicklung ersuchen.
Richard Thaler, diesjähriger Nobelpreisträger für Wirtschaft, lenkt in der Verbindung zwischen den wirtschaftlichen und psychologischen Analysen, durch die indirekte Suggestion der Wahl, auf das Treffen von richtigen Entscheidungen (englischsprachig: *nudging*), die die gesamte Nation bewegen können.
Der wichtigste Aspekt seiner Arbeit ist, „dass er zeigt, dass die wirtschaftliche Akteure Menschen sind“. Da wir das Potenzial in der Form des Humankapitals haben, das Investieren in dessen Errungenschaften und kluge Spezialisierungen, mit Anwendung der modernen Technologie in der Herstellung und Verarbeitung, sollen ein leuchtender Punkt für die künftige Entwicklung sein.
Ostkroatien hat Potenziale einer mehrfachen Entwicklung, nebst Naturressourcen, der primären Herstellung, den traditionellen ökologischen Nahrungsmitteln und dem gastronomischen Angebot, den archäologischen Funden, dem Kultur-/Denkmal- und sakralen Erbe, die nicht genügend ausgenutzt sind. Die bekannten Kurorte sind für die Entwicklung des Gesundheitstourismus ideal. Die Drau, die Save und die Donau, das Kopački Ried – das einzig erhaltene, unberührte Naturreservat und ein europäischer Nationalpark können ein attraktives touristisches Angebot sein, was beim Planen der Entwicklung auszunutzen ist. Durch ein organisiertes Angebot können wir zu wünschenswerten touristischen Destinationen, deren Saison das ganze Jahr dauert, werden.
Alle Arbeiten, die dieses Symposium erreichen und nach der Rezension angenommen sein werden, sollten „nudge“, Hilfsmaterial, das das Lenken auf das Gestalten einer erfolgreichen langfristigen Politik der Wirtschaftsentwicklung, wie Ostkroatiens, so auch der gesamten Republik Kroatien, hervorrufen könnte, kreieren.

Prof. Dr. sc. Anka Mašek Tonković

前言

作为一个学术平台，第七届国际科学研讨会“克罗地亚东部经济——展望与发展”将汇集今年杰出的科学家、博士候选人和领导人，为应对重大的经济挑战提出新的想法和专家建议。本届研讨会的举办适逢经济发展的转折点——种种迹象表明，我们取得了显著的发展进程，经济状况出现了积极的转变。一些公司因其卓有成效的经营和发展而获得了嘉奖与认可，新的企业家层出不穷，农业发展觅得良机，就业增长也指日可待。

但是众所周知，“百尺竿头，更进一步”。我们仍将年复一年地钻研，希望与会嘉宾能够为经济的下一步腾飞贡献新的分析，建议与设想。

今年的诺贝尔经济学奖得主理查德·塞勒(Richard Thaler)将经济学与心理学融为一体，通过非直接的宏观分析推动了正确决策，有望为整个国家的发展做出贡献。

塞勒的学说最重要的一点莫过于“它显示了人是最重要的经济利益相关者”。我们应看到我国在人力资本方面的潜力，为他们取得的成就，智能化与专业化投资，将现代技术应用于生产和加工，这将成为一颗经济发展的明日之星。

克罗地亚东部有多种发展潜力，包括自然资源、初级生产、传统有机食品和诸多美食、考古遗址、文化遗产、纪念碑以及宗教文化遗产等等。而遗憾的是，这些迄今为止仍没有得到充分利用。著名的卫生保健度假村非常适合发展养生旅游业。德拉瓦河、萨瓦河、多瑙河以及欧洲唯一保存完好的自然保护区及国家公园柯帕基里特，都能成为独具吸引力的旅游项目，进而充实我们的发展规划。如果能提供合理有序的项目与服务，我们有望成为全年火爆的旅游目的地。

所有参加这次研讨会并讨论通过的文件都会成为一股推动力，为克罗地亚东部和整个克罗地亚长期经济发展政策的制定群策群力，添砖加瓦。

Anka Mašek Tonković 博士

Tematska područja / Topics

1. Povijesna nasljeđa u razvoju istočne Hrvatske / Historical heritage in a function of the development of the eastern Croatia
2. Novi trendovi u razvoju gospodarstva / New trends in economic development
3. Ljudski kapital u funkciji društveno-ekonomskog razvoja regije / Human capital in a function of the socio-economic development of the region
4. Uloga prava u razvoju gospodarstva / The role of law in economic development
5. Međusektorska suradnja & Partnerstva / Intersectoral cooperation & Partnerships
6. Globalna ekonomija & Održivi razvoj / Global economy & sustainable development
7. Društveno odgovorno poduzetništvo / Socially responsible entrepreneurship
8. Regionalni razvoj - izazovi i prilike / Regional development – challenges and opportunities
9. Financijske institucije / Financial institutions

1

Povijesna nasljeđa u razvoju istočne Hrvatske

Historical heritage in a function of the development of the eastern Croatia

Prof. Miro Gardaš, PhD
Pravni fakultet Osijek
31000 Osijek, S. Radića 13
091-224-55-47
mgardas@pravos.hr

Tamara Alebić, PhD
Medicinski fakultet Osijek
31000 Osijek, Cara Hadrijana 10 e
098-988-72-73
tamara.alebic@gmail.com

THE INTRODUCTION OF A DOMINANT LEGAL SYSTEM FOR THE REGULATION OF HUNTING IN CROATIA IN THE SECOND HALF OF THE 19TH CENTURY

UVOĐENJE DOMINALNOG PRAVNOG SUSTAVA U REGULIRANJE LOVSTVA U HRVATSKOJ U DRUGOJ POLOVINI 19. ST.

ABSTRACT

Following the abolition of the feudal system in Croatia, in the mid-19th century, there was a series of reforms aimed at modernising the old feudal system in all its aspects. Thus there was a need to reform the old feudal approach to hunting based on the regal rights or the privileges given by the ruler. Therefore, the reform of the legislation governing hunting is being approached, and through several attempts, the so-called dominant hunting system that is related to land ownership, i.e. giving hunting grounds to a lease by the state is formed. From then on to today, of course, with the numerous reforms in Croatia, and in most other countries, such a way of managing hunting grounds is applied.
The author describes the process of transition from feudal regal to dominal hunting management system, and the adoption of several legal provisions to implement this process.

Key words*: hunting, dominal system, regal system, modernisation, Slavonia, Osijek*

SAŽETAK

Nakon ukidanja feudalnog sustava u Hrvatskoj polovinom 19. st. ukazuje se potreba da se reformira stari feudalni pristup lovstvu temeljen na regalnim pravima, odnosno povlasticama danim od strane vladara. Stoga se pristupa reformi zakonodavstva koje regulira bavljenje lovom i kroz nekoliko pokušaja formira se tzv. dominalni sustav lovstva koji je vezan uz vlasništvo nad zemljom, odnosno davanje lovišta u zakup od strane države. Od tada pa do danas, naravno uz brojne reforme u Hrvatskoj, a i u velikoj većini drugih zemalja, se primjenjuje ovakav način gospodarenja lovištima.
Autori u radu prikazuju proces prelaska s feudalnog regalnog na dominalni sustav gospodarenja lovištima, te donošenje nekoliko zakonskih odredbi kojima se taj postupak provodi.

Ključne riječi: *lovstvo, dominalni sustav, regalni sustav, Slavonija, Osijek*

1. Hunting through history

Hunting wild animals, collecting fruits, survival from today to tomorrow created humanity. A hunter who woke up this morning had to catch an animal and provide food for his family if he would have to live next day. That is how it worked for thousands of years. Humanity developed, relations were built, communities emerged, and at one moment of development, these ancient hunters have realised that some of the animals that they hunt can be tamed. Wolves have become dogs, boars have turned into domestic pigs, chamois in goats, wild cattle in cows, and so forth.

In this way, the first sedentary communities, the first permanent villages, settlements, cities, were formed. The story of civilisation first went from the area of Upper Mesopotamia, northern Iraq and Syria to the unfortunate areas where wars have lasted for 10,000 years. As old writers say, this is where "people and gods touched", a cradle of the letter, metallurgy, pottery, first laws, the first state, the first kings and the first despots. However, despite the transition to the stationary way of life, there was also hunting. In the swamps of the Euphrates, the Tigris and the Nile, they hunted boars and swamp birds. This is how people lived there and supplemented the family's diet, but some time around 2500 BC there was a significant change.

Kings, satraps and the governors began hunting. Numerous reliefs show dignitaries hunting accompanied by their bondsmen. From the chariot, accompanied by hundreds of beaters, they shoot all that they find. Since then 2500 BC, hunting was no longer a means of family nutrition, but a means of prestige and quality of a higher class. Not anyone was allowed to hunt anymore; the aristocracy took over the thing in their hands. A dignitary got his feudatory, his land, his property, and one can only do what he is allowed to do including hunting.

The ancient Greeks and especially the ancient Romans perfected it. They brought a whole series of laws and edicts to regulate every step in someone's country, including hunting. God forbid you caught a rabbit or a wild boar on a strange land, you would be immediately struck by the law.

2. The regal system of hunting

In Fransa, almost all of the numerous tribal rights - *leges barbarorum*, regulated or prohibited free hunting on land owned by someone else.

At that time, in France, it came to the development of the vassal-beneficiary relationship which became the basis of the later European feudalism and regal regulation of the hunting rights which had been operating for thousands of years in most Europe. The state and everything in it was owned by the king, and he, at his discretion, handed over the manners and powers to them; toll collection, authority over selling drinks and meat and the right to hunt on their estate. These donees, king's vassals - feudalists, organised luxurious hunting for their guests while for the others, especially the serfs, hunting was forbidden by the threat of very severe punishments. In the developed Middle Ages hunting was a status symbol and was perpetuated in many pictures, tapisers and illuminated manuscripts.

There were numerous regulations regulating the hunting of game animals and penalties for illegal or unauthorised hunting in the French state. A vivid example can be found in the *Salic Law*, where very high penalties are prescribed for the theft of hawks, but also for the theft of other game species.[1]

[1] Kurtović, Šefko: *Hrestomatija opće povijesti prava i države [Hrestomacy of the general history of law and the state]*, Zagreb, 1999, p. 131 i 149

The provisions on the protection of game are also found in *the General Capitularium of the Missi* brought by Charlemagne.[2] Furthermore, even in *the Capitularium on Emperor Domains*, we find provisions on the protection of game and the prevention of illegal hunting.[3]

By legitimate businesses or privileges minor or accidental regal rights (*iura regalia minora seu accidentalia*) were transferred to other authorised persons, usually landowners, as their benefit, and over time some of them became affiliated with feud (*beneficia dominalia*), which include hunting.[4]

In this way, the authorised persons or the executors of hunting right were rulers or persons, mostly noblemen, to whom the ruler gave the right to benefit, while other categories of the population were excluded from exercising this right.[5]
Such bans caused dissatisfaction of peasantry, which resulted in numerous violations of this law, i.e. in poaching. [6] The dissatisfaction of peasants was further fueled by the fact that while hunting animals over the cultivating fields the noblemen often caused considerable damage to crops. They were also dissatisfied with the fact that the local population was often imposed additional obligations; such as feeding hunting dogs and horses, performing a chase, and so forth. [7] This was also one of the reasons for the peasant uprising against feudal abuses under the leadership of Matija Gubec in 1573.[8]

It is interesting to note that in the Middle Ages hunting was closely linked with knightly virtues. Hunting practice was a welcome workout used by medieval knights to demonstrate their skills, skills in weapon handling, and courage. This was one of the main reasons why noble sons were encouraged to go hunting by the earliest days.[9] That is why the scenes of various ways of hunting were a frequent theme for many medieval artists. Hunting, hunters and knights in hunting were the inspiration for many songs, stories and numerous other artworks which have been preserved in many museums around the world. [10]

3. Regal hunting system in Croatia

As the basic sources of medieval rights in Croatia, as well as the rights regulated by hunting, there are the statutes of Dalmatian cities which represent the collection of city laws, or a mix of Roman, Byzantine, Venetian, Franciscan and own legal institutions. Luckily, a whole series of statutes of our Dalmatian and Istrian towns have been preserved, which are a valuable source for studying the development of law in Croatia. Among the most important are *the Statute of the City of Split* from

[2] Ibidem, p. 205
[3] Ibidem, p. 217 and 219
[4] Lanović: *Privatno pravo Tripartita [Private law of the Tripartite]*, Zagreb, 1929, p. 252
[5] About the origins and development of hunting privileges in the Middle Ages see: Eckardt, Hans, Wilhelm: *Herrschaftliche Jagd baüerliche Not und bürgerliche Kritik*, Vanderhoeck & Ruprecht, Göttingen, 1976, p. 23–37
[6] Blickle, P.: *Bäuerliche Rebellionen im Fürststift St. Gallen* u zborniku Aufruhr und Empörung Studien zum baüerlichen Widerstand im Alten Reich, 1980, p. 215. – 297.
[7] Eckardt, Hans, Wilhelm, op. cit. p. 76 – 126 nd especially in Spies, Karl-Heinz: *Herrschaftliche Jagd und baüerliche Bevölkerung im Mittelalter* in the collection Jagd und höfische Kultur im Mittelalter, Vandenhoeck & Ruprecht, Göttingen, 1997, p. 232.
[8] About the history of the peasant uprise: Šišić Fredo: *Pregled povijesti hrvatskog naroda [Overview of Croatian People's History]*, Zagreb, 1975.
[9] Röesner, Werner: *Jagd, Rittertum unf Fürstenhof im Hochmittelalter* in the collection Jagd und höfische Kultur im Mittelalter, Vandenhoeck & Ruprecht, Göttingen, 1997, p 124. - 125.
[10] Schwenk, Sigrid: *Die Jagd im Spiegel mittelalterlicher Literatur und Jagdbücher* and in Knesebeck, Wolter, Harald, *Aspekte der höfischen Jagd und ihrer Kritik in Bildzeugnissen des Hochmittelalters* in the collection Jagd und höfische Kultur im Mittelalter, Vandenhoeck & Ruprecht, Göttingen, 1997.

1271, *the Statute of the City of Korcula* from 1214 or 1265, *the Statute of the City of Zadar* from 1305 and others.

In the up-country, the legal position of the cities was governed by a gift or privilege issued by a king, a prince or a banus. Assignment of these privileges begins quite early, and so Varaždin gets it in 1220, Petrinja in 1240, Gradec (Zagreb) in 1242, Križevci in 1252, Virovitica in 1234, Vukovar in 1231. These grants regulated many rights and obligations of free royal cities, and in some of them the hunting rights in the city area.

An excellent example is the *diploma of the Free and Royal City of Osijek* of March 24, 1809. The mentioned diploma contains many interesting provisions, but we are only interested in two: the provisions of point 1, which state that the city government and all citizens, taken in total, are considered the royal nobility, and point 2 according to which the inhabitants of the city are given all territorial rights, including hunting and fishing rights.[11]

4. Introduction of Dominal Hunting System

The regal system, which was firmly related to feudalism, was first abolished in France during the Revolution, and in the middle of the 19th century, other states followed this example. Thus, on August 4, 1789, at the proposal of the deacon de Noailles, the hunt ceased to be the privilege of the king and became the attribute of the property right. Each landowner had the right to hunt but only in his own country, as established by the decree of April 30, 1790, which under the threat of fines forbade hunting in a foreign country without the owner's privy. This principle in time began to spread with Europe, ruining an old and ineffective feudal regal right of hunting. In England, where landowners had some rights to hunt before, Wiliam II by the statute of 1831 fully joined the right of hunting with the right to land. In Spain, the feudal law disappeared in 1837, and in Germany and Austria during the revolution in 1848. By the end of the 19th century, legal standing across Europe, with sporadic exceptions, was that the right of hunting is an integral right that is considered part of the land's ownership.[12]

Over time, regal rights have been abolished in a growing number of countries so that at the end of the 19th century, in almost all of Europe, the right of hunting was related to the ownership of land. However, in this new system, there were limitations. In some countries, hunting is allowed to all landowners, and in some, only to those who have a certain, legally prescribed amount of land. In the first case, where the hunt could have been done by every landowner, regardless of the size of the property, game was almost hunted out. That was why the intention was to designate the smallest area of land on which hunting could be made and that the land of several smaller owners get united in a hunting area and be given into lease to a third party. The advantage of this system is obvious. The game can no longer be hunted by anyone, and thus it is better protected. It is also useful for the landowner who can now claim compensation from the lessee of the hunting area for the damaged crops. Such a system of leasing relationship to the right to hunters today has spread to almost every country in the world.

In the area of Croatia, the situation was the same as in the rest of Europe. In the Middle Ages, in the period from the 16th to the late 19th century, the exercise of the hunting rights was in the hands of

[11] *Diploma Slobodnog i kraljevskog grada Osijeka [Diploma of Free and Royal City of Osijek]* of March, 24, 1809, poins 1 and 2, and Gardaš, Cepelić: *Lovstvo u Hrvata [Hunting in Croatia]*, Hunting, Croatian Hunting Association, Zagreb, 2004, p. 7.
[12] Zoričić, Milovan: *O povijesnom razvoju i naravi prava lova te sticanju vlasništva divljači [About the historical development and nature of hunting rights and the acquisition of game ownership]*, Zagreb, 1935, p. 64.

the ruler or the persons to whom it was granted. After the abolition of the serfdom in 1848, the right of hunting was linked to the ownership of the land, and further efforts led to the implementation of the lease system of hunting.

5. Introduction of dominal hunting system in Croatia

In the countries of Habsburg Monarchy, during the revolution in 1848, there were many important changes. With the abolition of the serfdom and the class privileges, the equality of all citizens was proclaimed before the law. On April 1848, it was decided to abolish the serfdom, i.e. the corvee that the serfs were obliged to provide for their feudal lords. In the mid-19th century after the abolition of feudalism a whole series of laws were introduced in legal life in Croatia; civil, criminal, and procedural laws. The reorganisation of the judiciary is all about breaking away with the old feudal way of judging and organising life in the country. All this leads to an increase in the legal security of citizens. Of course, the reorganisation of the feudal way of regulating and engaging in hunting was, among other things, also required.

Consequently, apart from the space that the noblemen retained for themselves as hunting grounds, all residents could freely hunt. However, the authorities soon intervened in such an almost unlimited freedom, so the Imperial and Royal Croat-Slavonic regime on April 4, 1859, brought the Announcement of the Royal Croat-Slavonic Regency of the Republic of Croatia, proclaiming the provisional hunting order in Croatia and Slavonia.[13] This Announcement established special hunting grounds on the surfaces outside those reserved for the nobility. However, the nobility who had not done so was given the opportunity to do so within a certain time according to the regulation mentioned above.[14]

For the first time, a lease for such hunting grounds was introduced. Namely, by the Provision, the counties could give the hunting grounds into a lease to the best bidder for a period of 5 to 10 years. The rent amount was mainly used to cover the costs of the hunting guards.

A close season was introduced for certain game species. It included large game, rabbits and all kinds of poultry game. Thus the hunting game was prohibited from March, 1 to June, 30. It was also illegal to gather eggs and take nursing birds. The counties could, as before, organise battues or hunting the beasts with the obligation to familiarise the landowners with that intention.

In such established hunting grounds, hunting was allowed only to those with hunting permit issued by the county district for a year, those who paid a hundred and a half, and who legally owned a weapon. The records of hunting permits were kept in a special book.

This provision stipulates that at certain times it cannot be hunted to protect crops and vineyards from damage, and that game warden should walk on the landmarks along the pits, hedges and fences.[15]

In Croatia, in the first years after the abolition of the serfdom, anyone was allowed to hunt in those areas that did not belong to the nobility. However, it soon became apparent that this was not a good solution. Namely, the peasants, freed from the corvee and bans, begin to hunt down everything that comes to their hands, which seriously threatens the game. In an attempt to protect the right of

---

[13] *Zemaljsko-vladni list za Kraljevine Hrvatsku i Slavoniju [Land and government gazette for the Kingdom of Croatia and Slavonia]*, II section, piece IV of April, 16, 1859
[14] O. c. paragraph 1.
[15] Abou this provision see: Buklijaš, Boris, *Pravni režim lova u Dalmaciji, Hrvatskoj i Slavoniji do 1918. godine [The legal regime of hunting in Dalmatia, Croatia and Slavonia until 1918]*, Hunting Journal no. 6, Zagreb 1999, p. 50

hunting and game on their property, certain landowners publish advertisements in newspapers and official gazettes prohibiting hunting in the area of their manors. That is why official newspapers from the 1950s are abundant with such advertisements.

It was considered that the solutions introduced and prescribed by the Provision of 1859 were provisional, and there was a need for better quality and more permanent regulation of hunting.

In the Economic Journal from 1862, there is an article saying: *"The question is whether we should hunt in such a way to hunt out all the game, so there will be no need for hunting any more, or we should spare the game so that it does not become extinct. Both opinions have its supporters."*[16]
Discussions about the regulation of hunting and especially the introduction of hunting for certain species of the game continue, so a few years later in that same Economic journal we read: *"That there is no game in our country the reason is to be found in the lack of care of people in charge. Just as we are against the hunting monopoly, that some of the nobility still has regardless of the existing regulations, we are, on the other hand, against the regulations that give unlimited freedom to every person from our and other municipalities to hunt during each season in his and other's hunting areas. We are familiar with areas where people hunt game in April and May as well as in autumn. It is obvious that under these circumstances game has been hunted out. In addition to this, there are other economic reasons for which such activities should be stopped."* [17]

In the first twenty years after the abolition of the feudal land management system, many mistakes and reforms were corrected, and changes were frequent. There were so-called urbarial courts that settled disputes between the former and new owners of the land. In the time there were less and less such disputes, and the weaknesses of the new system ceased, and the modernisation of all aspects of social life continued.

6. Dominal hunting system in Croatia

In Croatia, in 1870, the old regal hunting system was definitively abolished, and a new, dominal one was introduced which linked the right to hunt to the right of ownership over the land. Prior to the adoption of such a law and an entirely new system of hunting, many discussions were conducted, and the final discussion was held in the Parliament, as we can read in the Economic Journal: *"Among other legal propositions, which are submitted to the Parliamentary Session, there is also a legal basis for hunting . Bearing in mind that even the hunting is one of those vocations that belongs in the field of economy, it is my duty to say something about the regulation of hunting before the legislation makes its final decision."* [18]

A little more than a month later, or more precisely on December 29, 1870, the Parliament of the Kingdom of Croatia, Slavonia and Dalmatia sanctioned the legal Article XVIII of 1870 on hunting and proclaimed it on January 5, 1871 in Parliament, so that on February 6 In 1871, it was approved and confirmed by the emperor and King Franjo Josip. The most important article, or paragraph 1 of that law, reads simply: *"The regal law on hunting is abolished without any compensation."* [19]

---

[16] Economic journa of December, 18, 1862, taken from Karlović, Maks: *Prvi hrvatski zakon o lovu [The first Croatian law on hunting]*, Hunting Journal, no. 12, Zagreb, 1992, p. 460.
[17] Economic Journal of April, 2, 1868, cited from Karlović, Maks, ibidem
[18] Economic Journal of November, 24,1870, cited from Karlović, Maks, ibidem
[19] The Law on Hunting of 1870 for the Kingdom of Croatia, Slavonia and Dalmatia (Legal article XVIII), *Zbornik zakonah i naredabah valjanih za kraljevinu Hrvatsku i Slavonije [Colletion of Laws and Provisions for the Kingdom o Croatia and Slavonia]*, piece V, Zagreb, 1871.

Under the provisions of this law, the owner who owned 115 cadastral hectares of land could have applied for a private hunting ground on this plot.[20] The land that is not deployed in private hunting areas, with the participation of competent district courts, are established in municipal hunting grounds which also must have the smallest size of 115 cadastral hectares. Such municipal hunting grounds were leased by the district courts to the best bidder for a period of 10 to 12 years, for the exclusive purpose of hunting.[21]

The landowner who fulfilled the conditions and wanted to set up a hunting ground should have asked the competent district court to do so within 6 months of the entry into force of the law, otherwise it would be considered as having waived his right in favor of the competent municipality that will continue to manage or give it to lease.[22]

Hunting is also conditioned by the possession of an identity card. An identity card had to be obtained, along with the consent of the authorised person, by the person who is hunting in his hunting ground.[23]

The provisions of this law (Article 16) stipulate that hunters must employ game wardens, who must have reached the age of 20, had to be viceless and had to give their oath to the competent district court.[24] They had quite a great deal of authority, and in their conduct, they were aligned with official superiors and military guards, and their testimony had the power of evidence in court (Article 26).

A game warden was authorised to take away the weapon and game from a poacher and hand it over to the competent district court.

It is also prescribed that the lessee of the hunting ground should take account of the killing of beasts and pests, and for hunting game, there was also prescribed a close season. During the close season protected game must not be sold or bought, and very high fines were imposed in case of violation of the law (Article 28).

The law also stipulates that hunting is forbidden on fields under crops, vineyards and uncut meadows to avoid damage to crops (Article 31). In the event of any damage, however, each landlord shall be entitled to compensation.

The new law on hunting is introduced on April 27, 1893, and it introduced significant changes to the hunting regime.[25] The changes did not relate to the system, it remained dominal, but some of the provisions of the previous regulations changed. According to the new law, the right of the hunt was obtained by the owner of the combined complex of the land of at least 400 acres, and the administrative municipalities had the right of hunting on the land that was not owned. Municipal hunting grounds could not have been less than 1,000 acres, and they were leased to the best bidder for 15 years by auction. The lessee was obliged to pay a two-year lease: A half for the first year of the lease, and the second half for the last year of the lease. The law also foresaw the usual classical legal institutes: partnership and sublease. Thus, the collective lease of the hunting ground could have

[20] Paragraph 3 of the Law on Hunting of 1870
[21] Vežić, *Pomoćnik za javnu upravu [Guide to the Public Administration]*, Zagreb, 1884, p. 42
[22] Vežić, Milivoj: o. c. p. 651.
[23] A circular No. 7059 of July, 31 in Zagreb, 1874, see Vežić, o.c. p. 653.
[24] The oath of text is also prescribed by Article 36 of this law
[25] *Sbornik zakona i naredaba valjanih za kraljevinu Hrvatsku i Slavoniju od godine 1893. [Colletion of Laws and Provisions for the Kingdom o Croatia and Slavonia]*, piece IX, no. 36

been taken on by up to five people, while the municipal hunting grounds, with the permission of the competent body, could have been given into sublease.[26]

The provisions of this law (Article 14) precisely defined the close season, that is, when hunting for certain game species was prohibited. Thus, it is forbidden to hunt deer from October, 15 to July, 1; deer hind from January, 1 to October, 15; fallow deer from November, 1 to July, 1; fallow deer hind from January, 1 to October, 15; wild goat from December, 15 to August, 1; chamois and roe deer throughout the year; male roe from January, 1 to October, 1; big grouse and small grouse from June, 1 until the last day of February; big and small female grouse throughout the year; partridge from January, 15 to August, 15; rock partridge from January, 15 to September, 1; grey partridge from December, 15 to August, 15; wild geese, ducks, pigeons, swamp birds from February, 15 to June, 15; snipe and quails from April, 15 to August, 1; rabbits from January 15 until the end of August, while hunting singing birds was forbidden at all times.[27]

It is also forbidden to remove eggs and birds from the nests. The exception was only allowed to the owner and lessee of the hunting ground who needed bird eggs for artificial fattening of game, while the sale of live pheasants for breeding purposes was allowed on a daily basis.[28]

Article 15 states that the county government could allow the owner or a leaseholder of a larger hunting ground to hunt for rabbits as of April, 1, but only by lurking.[29]

Furthermore, with the Article 17 The Land Government could, for some time, prohibit the killing of certain species of game on those areas where there were few wild game species and where wild game breeding was neglected.[30]

Article 18 regulates how the game can be hunted. In this case, a useful game could only be hunted with a rifle or on a horse using hunting dogs of all kinds, while artificial capturing of useful game for hunters and his assistants was allowed solely for the purpose of breeding the game.[31] Since game sometimes entered the rest of the economy in search of food, Article 26 regulates this issue. It states that the owners of farms threatened by wild game could chase that game from their holdings and scare it by burning fire at night or in some other way, but in such a way that game is not hurt.[32]

It was also stipulated that the owners or hunters of the hunting grounds where the number of wild beasts multiplied were obliged to kill the game in the given time. If the owners or lessee of such hunting grounds did not meet that deadline, the district had the right to order, under its own control, a municipal chase where only predatory beasts could be killed. Such chases were banned on Sundays and on holidays.[33] The owners and lessees of hunting grounds were allowed to kill stray dogs and cats that they found on their hunting ground (Article 30).[34]

The Law on Hunting also provided certain penalties for certain offences. Thus, Article 40 provided for the punishment of anyone who hunts without the owner's or lessee's permission in their hunting

---

[26] Buklijaš, loc. cit.
[27] See the Law in Milan Smrekar, *Priručnik za političku i upravnu službu u Kraljevinah Hrvatskoj i Slavoniji [Handbook for Political and Administrative Affairs in the Kingdom of Croatia and Slavonia]*, vol. IV, Zagreb, 1903, p. 201- 202.
[28] Ibidem, p. 202.
[29] Ibidem, p. 203.
[30] Ibidem, p. 203
[31] Ibidem, p. 203
[32] Ibidem, p. 205.
[33] Ibidem, p. 205.
[34] Ibidem, p. 206.

ground with a fine ranging from 25 to 50 forints. If it happens that a person is found hunting on a horse or by some prohibited means, then a fine of between 50 and 100 forints could be imposed. If the poacher is caught in forbidden hunting and declines to say his name or if he threatens to a person who has caught him in a forbidden hunt, he could be arrested or reported.[35] If someone is hunting during the close season, the punishment for such an action is 50 to 100 forints (Article 51).[36] If someone is running their dog for hunting in someone else's hunting ground or if he is hunting with dogs during the close season, they will be punished by a fine of between 50 and 100 forints (Article 54).

7. Conclusion

With the introduction of the dominal system and the new law, it is clear that the leasing system is better than the others. In the countries where this system was introduced and implemented, the number of game animals was much higher than in those where every landowner was free to hunt on his hunting ground. Likewise, legal security was much greater. Owners of the hunting ground are at that time entitled to compensation by the lessee for any damages that arise from either the hunting or the game. In the end, by this act, hunting itself becomes accessible to all citizens alike, and not just to the owners of the land, as it was until then.

REFERENCES

Blickle, P.: ***Bäuerliche Rebellionen im Fürststift St. Gallen*** u zborniku Aufruhr und Empörung Studien zum baüerlichen Widerstand im Alten Reich, 1980.

Bosendorfer, J: ***Agrarni odnosi u Slavoniji*, Zagreb**, 1950.

Buklijaš, B: ***Pravni režim lova u Dalmaciji, Hrvatskoj i Slavoniji do 1918. godine***, Lovački vjesnik No. 6, Zagreb 1999.

Eckardt, H., W.: ***Herrschaftliche Jagd baüerliche Not und bürgerliche Kritik***, Vanderhoeck & Ruprecht, Göttingen, 1976.

Frančišković, S: ***Lovstvo u Hrvatskoj za vrijeme feudalizma,*** Lovački vjesnik no. 1-2, 1962,

Gardaš, M, Cepelić, D: ***Lovstvo u Hrvata***, Lovstvo, Hrvatski lovački savez, Zagreb, 2004.

Jeličić, J: ***Lovačke puške i pribor***, katalog zbirke vatrenog oružja, Zagreb, 1997.

Karlović, M.: ***Prvi hrvatski zakon o lovu***, Lovački vjesnik no. 12, Zagreb, 1992.

Knesebeck, W., H.: ***Aspekte der höfischen Jagd und ihrer Kritik in Bildzeugnissen des Hochmittelalters*** in the collection Jagd und höfische Kultur im Mittelalter, Vandenhoeck & Ruprecht, Göttingen, 1997.

Kurtović, Š.: ***Hrestomatija opće povijesti prava i države***, Zagreb, 1999.

---

[35] Ibidem, p. 212.
[36] Ibidem, p. 212.

Lanović, M: ***Privatno pravo Tripartita***, Zagreb, 1929.

Margetić, L: ***Srednjovjekovno hrvatsko pravo - stvarna prava***, Zagreb, Rijeka, Čakovec, 1983.

Röesner, W.: ***Jagd, Rittertum unf Fürstenhof im Hochmittelalter*** in the collection Jagd und höfische Kultur im Mittelalter, Vandenhoeck & Ruprecht, Göttingen, 1997.

Schwenk, S.: ***Die Jagd im Spiegel mittelalterlicher Literatur und Jagdbücher,*** in the collection Jagd und höfische Kultur im Mittelalter, Vandenhoeck & Ruprecht, Göttingen, 1997.

Spies, K., H.: ***Herrschaftliche Jagd und baüerliche Bevölkerung im Mittelalter*** in the collection Jagd und höfische Kultur im Mittelalter, Vandenhoeck & Ruprecht, Göttingen, 1997.
Smrekar, M.: *Priručnik za političku i upravnu službu u Kraljevinah Hrvatskoj i Slavoniji,* Vol. IV., Zagreb, 1903.

Šišić, F.: ***Pregled povijesti hrvatskog narod****a*, Zagreb, 1975.

Vežić, M.: ***Pomoćnik za javnu upravu***, Zagreb, 1884.

Vežić, M: ***Urbar hrvatsko-slavonski***, Zagreb, 1882.

Zoričić, M.: ***O povijesnom razvoju i naravi prava lova te sticanju vlasništva divljači***, Zagreb, 1935.

SOURCES

Diploma of the Free and Royal City of Osijek of March, 24 1809, points 1 and 2,

The Announcement of the Royal Croat-Slavonic Regency of the Republic of Croatia, proclaiming the provisional hunting order in Croatia and Slavonia, Zemaljsko-vladni list za Kraljevine Hrvatsku i Slavoniju*, II section, piece IV of April, 16, 1859*

The Law on Hunting of 1870 for the Kingdom of Croatia, Slavonia and Dalmatia (Legal Article XVIII.), Collection of Laws and Provisions for the Kingdom of Croatia and Slavonia, piece V, Zagreb, 1871.

Collection of Laws and Provisions for the Kingdom of Croatia and Slavonia of 1893, piece IX, no. 36, Zagreb 1893.

Jelena Kasap, PhD, Senior Teaching and Research Assistant
Faculty of Law in Osijek
Stjepana Radića 13
E-mail address: jkasap@pravos.hr

REVIEW OF THE REGULATION OF SOME CIVIL LAW ISSUES IN THE CHARTER OF THE FREE ROYAL CITY OF OSIJEK

OSVRT NA REGULACIJU NEKIH GRAĐANSKOPRAVNIH PITANJA U POVELJI SLOBODNOG KRALJEVSKOG GRADA OSIJEKA

ABSTRACT

The lack of legal sources of late medieval and early modern history, when it comes to Eastern Croatia, i.e. Slavonia, has been emphasised in legal literature several times. For this reason, the study of the development and characteristics of particular legal institutes is limited to the provisions of the statutes of certain Slavonian cities and the sources of customary law that were valid in that period. The legal issues that are going to be analysed in this research, and which are in the area of property law, law of obligations and inheritance law have in some cases been of particular importance for the economic development of Osijek. Thisis confirmed by the fact that some of them are regulated by the Charter of the Free Royal City of Osijek from 1809. Given that the very brief text of the Charter could not cover the essential characteristics of certain institutes relevant to this research political and economic Minutes of the free royal city of Osijek are going to serve as a valuable resource for studying their characteristics.Bearing in mind the period this research is dealing with, we should not be surprised, even at the early beginning, by the presence of feudal elements in the regulation of the mentioned legal issues. A brief review of the same issues in the other statutes of Slavonian cities is going to attempt to determine whether the regulationmentioned is a distinctive characteristic of this urban environment or it is, however, characterised by common elements in relation to other mentioned city statutes.

Keywords: *civil law issues, thefree royal city of Osijek, economic development, feudal elements, statutes of Slavonian cities.*

SAŽETAK

Oskudnost pravnih izvora kasne srednjovjekovne i rane novovjekovne povijesti, kada je riječ o području istočne Hrvatske, tj. Slavonije, u pravnoj literaturi je višestruko naglašena. Izučavanje razvoja i obilježja pojedinih pravnih instituta iz tog je razloga ograničeno na odredbe statuta pojedinih slavonskih gradova te izvore običajnog prava koji su vrijedili u navedenom razdoblju.
Građanskopravna pitanja kojima će se baviti ovo istraživanje, a koja su iz oblasti stvarnog, obveznog te nasljednog prava u nekim su slučajevima bila osobito značajna za gospodarski razvoj grada Osijeka. To potvrđuje okolnost da su neka od njih normirana Poveljom slobodnog kraljevskog grada Osijeka iz 1809. godine.Već na početku važno je naglasiti kako navedena regulacija gubi smisao od trenutka od kojeg su navedena pitanja u potpunosti izuzeta iz nadležnosti gradskih organa vlasti. Obzirom da sadržajno vrlo kratak tekst Povelje nije mogao obuhvatiti i osobitosti pojedinih instituta relevantnih za ovo istraživanje kao vrijedan izvor za izučavanje njihovih obilježja poslužit će političko-gospodarski Zapisnici slobodnog kraljevskog grada Osijeka. Imajući na umu

razdoblje kojim se ovo istraživanje bavi, već na samom početku ne treba nas iznenaditi prisutnost feudalnih elemenata u regulaciji građansko pravnih pitanja. Kratki osvrt na regulaciju istih pitanja u ostalim statutima slavonskih gradova nastojat će utvrditi je li navedena regulacija zaista predstavljala osobitost ove gradske sredine ili je pak u odnosu na druge spomenute gradske statute ipak bila obilježena zajedničkim elementima.

Ključne riječi: *građansko pravna pitanja, povelja slobodnog kraljevskog grada Osijeka, gospodarski razvoj, feudalni elementi, statuti slavonski gradova.*

1. Introduction

The period to which this research primarily relates covers the first twenty years of the nineteenth century, namely the period immediately after Osijek had been given the status of a free royal city. As the composition and the competence of the city government of the free royal city are in details regulated by the Statute of the Free Royal City of Osijek (hereinafter: the Charter)[1] and they are the subject of numerous studies which sought to establish the economic component of the organization of the Osijek City Government in the mentioned period, we are going to deal with them only briefly further in the text. The central subject of this research are only those questions of civil law that were primarily governed by the provisions of the Charter and were of great importance for the private sphere of the individual, the citizen and economic life of the city of Osijek.

The Charter has already classified the regulation of hereditary legal issues, i.e. the question of the property without an heir, the sale of real estate properties and specific contractual relations in the sphere of economic activity in the area of the city under the competence of the authorities of the city government. From the standpoint of modern law that does not foresee the jurisdictional power of local authorities, such behaviour seems to have been overcome. However, having in mind the fact that feudal features mark the period in which the Charter was made, such a regulation cannot be particularly surprising. By inspecting the records of the free and royal city of Osijek, which are subsidiary going to be used for this research, we can get a visible idea of the branched activity of the city authorities in the sphere of legal relations and determine their actual characteristics.Moreover, the content of specific provisions of the Charter and the earlier mentioned political and economic records of the authorities of the city authorities testify to the undeniable need to highlight the city administration of a free royal city as an active factor in its economic development. To what extent the features of some institutes, whose application was within the competence of the city authorities, reflected the continuity with the same institutes of other related fields whose jurisdiction is regulated by the same legal sources, will be determined by their more careful analysis.

2. About the regulation of hereditary legal issues

The first organisation of the Osijek city authorities after the liberation of Turkish rule and occupation in 1687 can be observed through the provisions of the first Statute of the City of Osijek of March 3,

[1]The proclamation of Osijek of the free and royal city occurred relatively late, that is on August 28, 1809. The text of the Charter, i.e. the Diploma of the Free and Royal City of Osijek from 1809, See: Sršan S., (2009), Liberare giaquecivitas Essek 1809 = (Slobodni kraljevski grad Osijek 1809) ,Osijek,p. 49-68; On the result of the proclamation of Osijek as a free and royal city on the organization and functioning of the city administration, see in some of the numerous sources, e.g. Vitek, D, (2005), Pravni položaj Osijeka u 18. st *[Legal position of Osijek in the 18th century]*, Scrinia Slavonica 5, p. 99-114; Brunčić, D, (2010), Slobodni i kraljevski grad Osijek u svjetlu suvremenih europskih standarda lokalne samouprave *[The Free and Royal City of Osijek, in the light of contemporary European standards of local self-government]*, Anals of the Institute for Scientific and Artistic Work in Osijek, 26, p. 37-56.

1698.[2] Even a brief review of the content of certain statutory provisions indicates that the purpose of the statute is to serve the judge and the council of the city and fortress of Osijek. Though this is not of particular importance for the content of this research, it is useful to mention that the jurisdiction in all the matters foreseen by the Statute was distributed between the City Council and the Judges conferring together.[3] At first glance, the connection between the judiciary and the executive authorities of the city authorities points to a very peculiar solution that is further reflected in the sixth provision of the fifth section of the Statute relating to the regulation of civil law matters. The mentioned provision, though very brief in its content, also defines in details the competence of the city authorities in the case of civillawissues, wherethejurisdictionofthecitycouncilis providedinthefirst instance, and the Slavonian Chamber of Commerce in the second one.
It remains to be determined whether the first Statute of the City of Osijek had already foreseen in its content the protection of certain rights which, by its content, belong to the relations that persons are subject to concerning things, belongings and property. Attention is drawn to the eighteenth provision of Section V of the Statute, which obliges the city council and city judge to pay special attention to widows and children of deceased citizens. The content of the provision below details the question of the property of deceased citizens which had to be listed and handed over to the special administrator of the custodians who managed it on behalf of their protégés while the cash had to be handed over to the confiscation.After their proteges had come of age, all the caretakers had to settle the bill and hand them over their property before the city council. The regulation of this important issue, which modern law observes through the content of family legal norms, did not primarily contribute to the economic component of social relations but it sought to protect the weak and dependent citizens.[4] However, the circumstance that the Institute of custody is carefully regulated by the provisions of the earliest City Statute justifiably encourages that the content of the Charter, which was adopted one hundred years later, extends the jurisdiction of the city authorities to other civil law issues relating to the economic development of the free royal city.

The organisation of jurisdiction for dealing with certain civil cases did not change even after Osijek had become a free and royal city. Judicial affairs until 1848, when the feudal relations, and thus the reorganisation of the city government, came to an end, were executed by the city judge, who in major cases judged together with senators.[5] The stated right to court in civil and criminal cases is one of the privileges that define the legal position of free royal cities in the late Middle and New Age. For this reason, it is not surprising that the content of the Charter was devoted to certain issues that the editor obviously considered important for the legal and economic security of a city.[6]

---

[2]The first Statute of the city of Osijek was written in German language, and the translation of the text of the Statute which was divided into five sections is available in: Bosendorfer, J., (1910), Crtice iz osječke povijesti *[Documentsfromthehistoryof Osijek]*, Osijek, p. 378; Mažuran, I., (1996), Od turskog do suvremenog Osijeka *[FromTurkish to Contemporary Osijek]*,Osijek,p. 12; Farkaš, D., (1997) Prvi statut grada Osijeka 1698. Godine *[The First Statute of theCity of Osijek]*, Glasnik Arhiva Slavonije i Baranje *[Archive Gazette of Slavonia and Baranja]*, 4/ 1997, p. 158- 163.

[3] See the content of the Provisions 1,2 and 3 of the 5th section of the Statute.

[4] The establishment of the guardianship institute with the same regulation of jurisdiction and the definition of this legal relationship is foreseen by the Charter of the Free and Royal City of Osijek. More on the content of certain civil rights and obligations see: Sršan, S, (2000), Minutes of the Osijek Municipality, Prothocollum des Stadt-RathszuEsseg 1794-1809, Osijek, p. 14

[5] It seems important to note that free cities had the right to make statutes that were valid only in the city area if they did not contradict the Land laws and were confirmed by the King; Sršan, S., (2000) p. 10 and 15.

[6] More about the privileges of the free and royal city of Osijek, which reconciled the legal status of the town with the noble status: Brunčić, D. (2010), p. 46-47

2.1.1. About the regulation of the property without an heir (*caduca*)

The first provision of the Charter[7] relating to civil law regulates some inheritance issues in the area of the city and is regulatedby the medieval feudal principles. By the principle of "*fiscus post omnes*", the Charter provides for two specific cases of inheritance of property situated in the city. The first one is regular, which deals with the inheritance of the property of the deceased possessor without a successor.In the second case, it is an extraordinary inheritance of the property in which the property is taken or deprived of its citizens for the crime of high treason, crimes committed against the Imperial Majesty or it was the case of inherited goods possessed in the area of the city and were burdened with the royal law.Whilethe property, land or civil property is added to the municipality in the first case, in the second one, it is added to the royal treasury.

For a proper understanding of the content of the provision, it is necessary to look at the provisions of other medieval sources that were used at this time in the Slavonian area, and which regulated the question of *caduca*, that is, the question of the property without an heir. It is at first glance clear that the Charter consistently sought to explain the legal status of an asset that was not the object of inheritance either because there was no one to inherit it in a particular case (because there were no living heirs of the deceased) or because of the special status of the gifted good which demanded the return of the good to the jurisdiction of St. Crown.

While the first case of property without an heir was regulated almost without distinction in relation to modern law, the other demands an explanation. According to the provisions of the Tripartite, which was one of the legal sources of customary law in the territory of Hungary and Slavonia, until the entry into force of the General Civil Code, certain donations of the property, movable or immovable, to prominent individuals were referred to as "king's right" and were presumed to be returned to the king's treasury in the case of the extinction of the family or if there were signs of infidelity.[8] In the case when they were donated by the king’s right the restitution of donations to the crown, as Lanović claims, can be identified with the resolution, i.e. the termination clause which was to be interpretedin accordance with the provisions of the contract law.[9]Bearing in mind the regulation of inheritance present in Croatian-Hungarian medieval law, it seems that the meaning of Article 18 of the Charter should be interpreted in a way that in the absence of an heir or legal successor the property of the free owners becomes the property without an heir and it is to be handed over to the city treasury according to the law of the city, and not to the king's treasury based on a contractual relationship that was established by the king's gift.This very brief provision of the Charter indicates a series of solutions that largely depended on the legal status of the property inherited in the area of a city municipality. The application of the provision in a specific case also anticipated the knowledge of other legal sources regulating heritage legal issues in the relevant period. By inspecting the Records of Political and Economic Decisions of the Free and the Royal City of Osijek in 1809, 1810 and 1811, the question of the property without an heir is limited to the firstregular case of the property without an heir.[10]

---

[7] Provision 18 of the Charter; According to: Sršan, Swerbezcjeva (2009) p. 60.

[8]In his review of the provisions of the Tripartite private law, Lanovićis citing cases of "sign of infidelity", i.e. committing crimes against the crown by referring to provision 1723: 9. See more: Lanović, M, (1929), Private Law of the Tripartite, Zagreb, p. 231.

[9]Lanović, 1929, p. 230.

[10] Decision of the City Government no. 44/25 of September 15, 1809, clearly shows that the question of the property without an heir was solved in practice. Namely, in accordance with the contents of the minutes, the property of the late owner TerezijaLehner, who was killed by her sister, married Puchner, should be added to the treasury of the city, sold at public auction and the money should be contributed to the city treasury. Since the record contains a note that the late owner of the property has no legitimate and capable heirs, we are inclined to recognize this regular case of *caduca* in this record. Assets were estimated at 874 forints and 59 money units; See decision no. 95/90 of 30

3. About the regulation of some property legal issues

The following provision of the Charter relating to the regulation of the legal affairs of an urban environment typical of the 19th century is 19. However, not entirely. The first part of the provision refers to the right of the forgiveness, freedom and prerogatives affirmed to citizens of the city municipality by the adoption of the Charter, and the second part of the provision which provides for a ban on the exemption from tax payment and the ban on alienation of real estates, i.e. town houses and land without the king's approval, requires special attention from the point of view of the problem of this research.The reason for this prohibition can be found in the following provision, where it is stated that any disposal against the prohibition would cause damage to the municipal community. We assume, of course, the one of the economic characters. If we bare in mind that any restriction on the disposal of real property even in the Middle Ages is contrary to the content of that right, it is important to determine the cases in which the extraordinary application of this provision justified the restriction of disposal to holders of property rights. To be able to interpret the meaning of this provision properly, it is necessary first to determine the title of the property right, but also the object in respect of which the mentioned disposal is prohibited.[11]With careful analysis of parts of the provision it can be stated that real estate on the territory of the free royal city of Osijek could not have been seized ("... we want to forbid the forgiveness of taxation as well as the liberation of town houses or land in the city municipality or outside it without the consent or the king's approval at the expense of the city community") irrespective of whether they were in possession of the city as a collective possessor or possession of a citizen.Thus, if the property from the area of the city was transferred to the church or people who were not citizens of the city within one year, the same real estate had to be sold to citizens. Otherwise, the city government "under the law of the country" assumed the obligation with a previous estimate, to pay their value to the possessor. The continuation of the provision shows the legal consequences that may arise in the event of a counterfeit ban.

This regulation can already now be compared with the provision of the Ilok Statute, which was one of a few legal sources in the Slavonian territory in the 16th century. In Chapter 15 of the First Book of the Ilok Statute,there is a prohibition according to which none of the domestic citizens could sell their homes or possessions (where the real estate is concerned) to foreigners if there were buyers from the area of the city.[12] In the same sense should be interpreted chapter 17 of the Second Book, which foresees the ban on the sale of the inherited property to aliens if foreigners do not come to live in the city. Ifthe propertywas still sold to aliens, the statute provided for some form of legal transaction and the sale of the same property under the same conditions to the citizens of Ilok.

Similarly to the provisions of the medieval statutes of Dalmatian towns[13], mentioned provisions expressed particular distrust towards foreigners, which was fairly justified when it comes to medieval

---

September 1809; Sršan, S, (2009), Minutes of Political and Economic Decisions of the Free and Royal City of Osijek in 1809, Osijek, p. 57 and 137.

[11] Prior to the rest of the content of this provision, it is important to establish the notion and the set of authorizations that made property rights in the Slavonian area at the time that we refer to in this research. In the review of the Tripartite Private Law Lanović states the difference between the dominant property right (*dominumeminens*), belonging to the king, over possessions of his vassals and ordinary property right (*dominumvulgare*), according to which every individual could freely dispose of his rightful property. The term property was closest to the Roman legal institute; Lanović, M. (1929), p.

[12] The provisions of the Ilok statute in the continuation of the research are cited according to: Statute of the City of Ilok, Volume 7, Vinkovci, 1970.

[13] Similar provisions are found in almost all statutes of middle Dalmatian municipalities. See for example: Gl. 102.Reformation;Cvitanić, A, (1987),Korčula Statute - Statute of the City and the Island of Korčula (1214-1652), Split.; Cvitanić, A., The Statut Of Šibenik IV, p. 45 .; Cvitanić, A., (1987), The Statute of Split, Split, VI, p.2; For more details on the legal position of foreigners in medieval statutes of Dalmatian cities when it comes to obtaining real estate see: Birin, A., (2003),Pravnipoložajstranaca u statutimadalmatinskihkomuna*[Legal Status of Foreigners*

communes. The period of the new era, as evidenced by the Charter, had not yet prevailed. Although from the point of view of achieving economic and economic benefits for the city municipality the connection with the citizens was justified in order to achieve trade links and profits, evidenced by numerous records of the city government, the protection of the city's municipality and the interest of citizens was still at the center of the attention of the editor of the document.

The records of city authorities that originate from the years that are referred to in this research do not contain direct information on the sale of real estate to aliens, but in many cases, which is going tobe briefly discussed below, one can see a very consistent way of dealing with the city's assets. In some cases where a city owns the purchase of city land or a house, the principle stated in the Charter is consistently implemented since all the property is sold exclusively to citizens of Osijek.For example, a record no. 189 of the city council's 10th session in 1812 testifies to the sale of the house of citizen Andrija Veidner to Martin Lutter, the then citizen and the shoemaker in the value of 12200 forints.[14] Another example is evident in the minutes of the 21st session of the City Council no. 291/Reg. 357. In the contents of the minutes it can also be seen that the real estate of one citizen, Roko Paša was sold to another citizen, to Mihael Šimić for 800 forints.[15]The circumstance that all the records evidencing the sale of real estate contained a note that they were sold to citizens with their name and surname confirms the importance of their retention within the city community and ownership of the city's inhabitants. One exception to the usual way of dealing with real estate is noted in the record no. 23/9 on the transfer of the city land to Virovitica vice prefect Antun Adamović Tenjski.[16] As the vice prefect had a significant role in the process of settling of Osijek in the free and royal city, the town administration expressed its gratitude and, contrary to the provisions of the Charter, handed over the city's good to the possessor who was obviously not a citizen of Osijek. In order to rule out the possibility of a dispute over the land ownership and its succession, the decision of the Government also contains the circumstance that all heirs and offspring of vice prefect, regardless of their sex, have the same right to permanently possess the goods in question, irrespective of whether they have acquired it by the will, gift or another legal basis.[17]

The same principle is evident when it comes to legal business in the area of the contractual property rights owned by the city. There will be more about this in the section dealing with the contractual relations that are governed by the Charter.

Previously, in the part of this research that deals with the issue of acquiring the ownership of the real estate, i.e. the prohibition of such manipulation when it comes to certain objects, it is clear that interests that were particularly important to protect within a city environment were identified. The circumstance that the owners of certain real estates could only be citizens of the city on the one hand positively influenced their protection by giving them the advantage of acquiring real estate in the city. The intent of the mentioned ban on the Charter was undoubtedly focused on the protection of thesocial city structure in the period covered by the Charter.

---

in the Statutes of Dalmatian Municipalities], Proceedings of the Department of Historical Research of the Institute for Historical and Social Research of Croatian Academy of Sciences and Arts, Vol.20, p. 81-84.

[14] See the content of the case, Sršan, S., (2012) Politicalandeconomicminutes of the free and royal city of Osijek of 3rd January 1812 Economic minutes of the free and royal city of Osijek ofJanuary 3 untilDecember 31, 1812, p. 28.

[15]Sršan (2012) p. 60. The same case of selling houses and land of a citizen Klara Fatz to the citizen Mihael Arnau see in the minutes no. 1864: Reg 1791.

[16]The county prefect of Virovitica was at the same time a royal adviser who played an important role in the liberation and proclamation of Osijek the free and royal city. Before that, he showed himself by acting in a milder way at the time when Osijek was a chamber town under the jurisdiction of the county.

[17] The contents of the minutes more precisely denote the land that is the object of assignment, and also determines the purpose of the land. It is an empty plot between the Parish Church of the Upper Town and the county building which had to be large enough to have a house built there. Sršan, S. (2009) p. 35.

On the other hand, it can not be neglected that the prohibition in the Charter certainly adversely affected the economic progress achieved in the period above by the settlement of foreign nationals, primarily in the area of trade and crafts relations. The closeness of the city to the settlement of aliens, their different position that we have analysed earlier in the case of real estate transactions, according to some authors[18], had a negative effect on the administrative position of the city.

4. Regulation of Contractual Relationships

When itcomes to contractuallegal relationsthat are manifested exclusively in the field of trade and crafts activities, the city administration in the early 19th century affirmed itself as a safe and dominant regulator of economic life. The most important powers are entrusted to it by the provisions of the Charter, especially the fourteenth and fifteenth provision, while the contents of the minutes of the city government show other activities regulating the economic development of the city. These activities are manifested by very frequent contractual practice when it comes to the conclusion of a loan, a contract whose purpose was to stimulate the economic activity in cases when it was concluded between the city government.

The Charter of the Free and Royal City of Osijek in the fourteenth provision regulates the maintenance of annual fairs by the privileges assigned to the city.[19] Although it has no particular significance for the area of contractual relations, it can not be neglected that the annual trade fairs have stimulated trade activity, i.e. fairs were the places where it was largely realised. In this connection, to protect the participants of compulsory legal relations and to prevent fraud in the sales relations of the Charter, the Charter assigned the jurisdiction to determine the measures and legal measuring to the city municipality.[20]For this provisionto be the subject of legal sanctions, it included punishment of all those who used the measuring unlawfully. Also, the provision also foresees the obligation of all who are engaged in a particular activity of manufacturing the product to produce them and then sell them according to certain standards of their validity and quality. The content of these provisions undoubtedly contributed to the development of trade relations, especially considering the basic elements of the sale, the thing to sell and the prices, as well as the responsibilities for the defects of the goods sold. To better define the contents of this legal transaction it is necessary to take into account some other source provisions regulating private-law relations in this period.

The Statute of Virovitica County, which also included the Osijek County since 1745, included the protection of the masters of the home fur guild in such a way that the conclusion of the county session, held on November 9, 1754, prohibited the purchase of fur from foreigners, which included all but the Osijek merchants who were protected by the Guild privilege.[21] It appears that this

[18]Vrbošić, J.,(2010), Povijesni kontekst nastanka instituta slobodnog i kraljevskog grada 1809. Godine *[Historical Context of the Establishment of the Institute of Free and Royal City in 1809]*, Anals of the Institute for Scientific and Artistic Work in Osijek, vol. 26, Zagreb- Osijek, , p. 19.

[19]Four fairs were held annually. First on the day of St. Fabijan and Sebastijan, the second on the day of St. Juraj, the third on the day of St. Ilija, and the fourth on the day of St. Luka. There were as many animal fairs. Weekly fairs were also allowed to enable the collection of certain fees needed to finance the city's municipality. The fairs were not held on Sundays or holidays. In the event that the day of the fair was falling on holiday or Sunday it was postponed to the following day. See Chapter 14 of the Charter.

[20]See provision 15 of the Charter

[21]See: Sršan, S,(2008), The Statute of Virovitica County 1745- 1792, Osijek, p. 120-112. There is a similar provision in the Statute of Ilok, Book 1, Ch. 20, 22 and 23 relating to the commercial activity of aliens. In order to limit foreign trade and to prevent manipulation directed against Ilok citizens, the Statute prohibits citizens from purchasing goods (skins) for aliens. Furthermore, the statute provides that the maximum amount of goods that may

provision was not a novelty in the regulation of trading activity. Also, the instructions for the work of the city magistrate from 1690, envisaged that, except for military personnel, only genuine citizens couldbe involved in trade business.[22]To a large extent, the regulation of guild and crafts activities is contained in the provisions of the Records of the Osijek City Council. We do not intend to interpret them fully, but we are briefly going to consider the most important ones by which it is possible to analyse the regulation of mandatory legal relations in the period under consideration. By inspecting the records of the city government, the impression is that the city administration was solely responsible for the conclusion of contracts whose object was the city property. It is, above all, a lease, a rent and a loan where the city government appears more frequently as a lender and exceptionally as a borrower.

Record No. 1915 from 1809[23]stipulates the obligation to conclude contracts relating to the purchase, sale, labourcontract or transport at the public auction. Before the opening of public auction, the city government was obliged to formulate contractual terms and obligations of the contracting parties. Further in the text, it becomes clear that the contracts concluded at the public auction were those whose object was certain properties of the city. As the city goods were a significant form of indirect acquisition of money for the city treasury, the city government sought to conclude contracts that were rented or leased through the public auction. It is evident from the record that there were attempts to achieve as shorter a period as possible for the goods to be outside the legal traffic.[24] An example of a rental can be identified in record no. 34/322[25] where the city authorities appear as the lesser of the shop in the town house in the city together with the basement for three years. Two interesting things come from the contents of this record. Firstly, as a rental object, there are business premises that are the lease object according to the modern law. It follows that, when concluding legal transactions, there was no attention paid to the distinction between two similar contracts, rent and lease, which can be seen in other earlier sources of private law.[26]Secondly, the city government retained the possibility to terminate the contract before its expiry if the city's circumstances required it. It cannot be neglected that in this case the privileged position of the city government is justified by the realisation of economic interest. When it comes to private-law affairs of citizens in which the city government does not appear as a party, the contracts have a simpler form,and their content is recorded in minutes.[27] A very dominant form of business between the city administration and citizens is manifested in cases where the city government tried to meet the different needs of the city treasury using funds of citizens or parishes of neighbouring villages.One example is analysed below. The loan agreement in which the city government appears as a lessee was certainly concluded between the City Government and Mr Ignjat Kovačević, a parish priest of Koška, resulting from footnote no. 367/350.[28] On the occasion of the contract concluded, the lessor claimed interestfor 360

be sold to aliens is limited to one-fourth of the skins. Also, any foreign trader is forbidden to sell goods under a certain price.

[22]Vitek, D. (2005) p. 103.; Mažuran, I.(1981), Počeci djelovanja osječkog gradskog magistrata i njegovi prihodi i rashodi 1697.*[The Beginning of the Action of the Osijek City Magistrate and its Revenues and Expenditures 1697]*, Anals of the centre fo scientific work, JAZU, I, Osijek, 1981, p. 41.

[23]See: Sršan, S.(2012) p. 288

[24]See: Record no. 611: Reg. 502 states that a city representation requests from the City Government to re-rent the city property after the expiration of earlier contracts and that they should accelerate the lease.

[25]See: Sršan, S.,(2009) p. 409

[26]The private law of the Tripartite, which in the territory of Slavonia and Hungary was used as a source of private law until the entry into force of the OGZ does not make a distinction between the two contracts, but deals them with the same terms under the title Lease or rent. Lanović, M. (1929) p. 279. Differently from this, the medieval statutes of our coastal and island towns often point to the difference between these two contracts. See more: Margetić, L, Medieval Croatian Law. Obligatory law, Zagreb-Rijeka, 1997, p. 42-43, 45.

[27]The records mainly refer to lease contracts, and the content is in German. Sršan, S., Minutes of the Osijek Municipality, Prothocollum des Stadt-Raths zu Esseg 1794-1809., Osijek, 2000, p. 110, 113

[28]See: Sršan, S,(2009) p. 429

forints on the 6,000 forints of principal borrowed to the city administration. The content of the records results from the borrowing of money (loan for use). There is no doubt that, in the event of the conclusion of the contract, a somewhat awkward expression of the loan for use was used, and not a loan for consumptiongiven that in the period which we refer to the difference between the two legal transactions was legally standardised.

5. Conclusion

For the purpose of the complete and exact understanding of the provisions of the Charter, which regulated civil law issues and their shortness and omission as a subsidiary source for this study, we used the Minutes of the City Government through which we gained an impression of the real activity of the city government in the field of civil law relations. By insight into their content and a more careful analysis of the questions posed by this research, one can safely claim the following. When it comes to the mentioned inheritance and mandatory rights issues, as well as the property rights relationship, the exclusive jurisdiction of the city authorities, as envisaged by the Charter, was justified by the economic interests of the municipality as well as the achievement of security in the legal traffic that was achieved by concluding the records before the city authorities.For the correct understanding of the regulation of hereditary-legal issues,whose central part was the property without an heir, it was necessary to seek for the explanation of the terms, which were marked by feudal elements in that period, in other sources that were valid in the wider Slavonian region. Having analysed thembecame apparent that the text of the Charter is confined to the regular term of inheritance of non-heiress estate holders, which undoubtedly represented the revenue of the city treasury suitable for use to achieve other interests of the municipality. The limitation of the acquisition of immovable property with effect, while the purpose,which was sought to beachieved by the provision, had a wider meaning in the area of protecting the urban population from foreign influence on the social as well as the economic plan.Since some private real estate contracts in some Records are not characterised by limiting elements, it can be concluded that the city government had only a mediating role in this frequent activity. The area of mandatory legal relations best describes economic activity between private persons and city authorities and private persons. The activity recognisable in renting and lease agreements is evidence of a diversified entrepreneurial activity encouraged by the contracting of special conditions, but which to a certain extentserved to achieve other economic goals of the city authorities to achieve better living conditions. Based on the presented and parallel with other similar acts such as the Statute of Ilok and the Statute of Virovitica County, it can be safely stated the provisions of the Charter covered the civil law matters, but when it comes to the competence of the city authorities in their resolution, they are marked by similar features and justified for the same economic purpose. By contrast, from the point of view of modern management organisation, but also the content of certainprovisions, one cannotneglecttheircustomary element.

REFERENCES

Birin, A., (2003), Pravni položaj stranaca u statutima dalmatinskih komuna [Legal Status of Foreigners in the Statutes of Dalmatian Municipalities], Proceedings of the Department of Historical Research of the Institute for Historical and Social Research of Croatian Academy of Sciences and Arts, Vol.20.

Bosendorfer, J., (1910), Crtice iz osječke povijesti [Documents from the history of Osijek], Osijek.

Brunčić, D, (2010), Slobodni i kraljevski grad Osijek u svjetlu suvremenih europskih standarda lokalne samouprave [The Free and Royal City of Osijek, in the light of contemporary European standards of local self-government], Anals of the Institute for Scientific and Artistic Work in Osijek, 26.

Cvitanić, A,(1987), Korčula Statute - Statute of the City and the Island of Korčula (1214-1652), Split.
Cvitanić, A., (1987), The Statute of Split, Split.
Farkaš, D. (1997), Prvi statut grada Osijeka 1698. Godine [The First Statute of the City of Osijek], Glasnik Arhiva Slavonije i Baranje [Archive Gazette of Slavonia and Baranja], 4/ 1997.
Lanović, M, (1929), Private Law of the Tripartite, Zagreb.
Mažuran, I., (1981), Počeci djelovanja osječkog gradskog magistrata i njegovi prihodi i rashodi 1697. [The Beginning of the Action of the Osijek City Magistrate and its Revenues and Expenditures 1697], Anals of the centrefo scientific work, JAZU, I, Osijek.
Mažuran, I., (1996), Od turskog do suvremenog Osijeka [From Turkish to Contemporary Osijek], Osijek.
Sršan S., (2009), Liberare giaquecivitas Essek 1809 = (Slobodni kraljevski grad Osijek 1809), Osijek.
Sršan, S, (2000), Minutes of the Osijek Municipality, Prothocollum des Stadt-Rathszu Esseg 1794-1809, Osijek.
Sršan, S., (2009) Minutes of Political and Economic Decisions of the Free and Royal City of Osijek in 1809., Osijek.
Sršan, S., (2012) Political and economic minutes of the free and royal city of Osijek of 3rd January 1812 Economic minutes of the free and royal city of Osijek of January 3 until December 31, 1812., Osijek.
Statute of the City of Ilok, Volume 7, Vinkovci, 1970.
The Statut Of Šibenik IV, p. 45 .;
Sršan, S, (2008), The Statute of Virovitica County 1745- 1792, Osijek.
Vitek, D, (2005), Pravni položaj Osijeka u 18. st [Legal position of Osijek in the 18th century], Scrinia Slavonica 5.
Vrbošić, J., (2010), Povijesni kontekst nastanka instituta slobodnog i kraljevskog grada 1809. Godine [Historical Context of the Establishment of the Institute of Free and Royal City in 1809], Anals of the Institute for Scientific and Artistic Work in Osijek, vol. 26, Zagreb- Osijek.

doc. dr. sc. Vladimir Margeta
Poljoprivredni fakultet u Osijeku
V. Preloga 1, HR-31000 Osijek
Phone: +385 (0)31 554 944 Fax: +385 (0)31 554 853
E-mail address: vladimir.margeta@pfos.hr

dr. sc. Tomislav Jakopec
Filozofski fakultet u Osijeku
L. Jägera 9, HR-31000 Osijek
Phone: +385 (0)31 494-736 Fax: +385 (0)31 212 514
E-mail address: tjakopec@ffos.hr

Darija Kuharić, mag.educ.angl. et germ.
PhD candidate
Poljoprivredni fakultet u Osijeku
V. Preloga 1, HR-31000 Osijek
Phone: +385 (0)31 554 940 Fax: +385 (0)31 554 853
E-mail address: dkuharic@pfos.hr

Mirna Gilman Ranogajec, univ.mag.inf.sc.
Teaching assisstant
Filozofski fakultet u Osijeku
L. Jägera 9, HR-31000 Osijek
Phone: +385 (0)31 494-655 Fax: +385 (0)31 212 514
E-mail address:mgilman@ffos.hr

VIRTUAL MUSEUM OF BLACK SLAVONIAN PIG – FAJFERICA

VIRTUALNI MUZEJ CRNE SLAVONSKE SVINJE - FAJFERICE

ABSTRACT

The native breed, Black Slavonian pig - Fajferica originates from the 19th century farm Orlovnjak near Osijek.Black Slavonian pig was the most important and numerous breed in Slavonia until the first half of 20th century. It is included in the National program of preservation of autochthonous and protected breeds of domestic animals in Croatia, since its population drastically decreased and reached the critical survival level after WWII. In order to provide relevant information from the agricultural, historical, economic, cultural and ethnological point of view, a research team was assembled with researchers from different scientific fields (biotechnical sciences and social sciences and humanities). The unusual combination bridges the gap between agriculture, history, art, and informatology. An application was submitted and consequently funds for the Virtual Museum of Black Slavonian Pig *were allocated through calls for project proposals (interdisciplinary project proposal, in this case) at the University of J. J. Strossmayer in Osijek (IZIP 2016). The* Virtual Museum of Black Slavonian Pig *provides a way for scholars, students, tourists and others to learn more about history of the breed itself and its perseverance. The website includes an interactive virtual tour of Fajferica's history, a database of primary sources, i.e. links to relevant resources. Moreover, the website is a place where tradition and art meet agriculture (from acorn grazing to naïve art, sculpture and literature). Digitalization enables the promotion of this segment of cultural* *heritage and makes it more accessible to the interested users, which has already been the case in similar projects in numerous museums, libraries, galleries and archives all over the world.*

Key words: *Black Slavonian pig,virtual museum,interdisciplinary project, University of J. J. Strossmayer in Osijek, IZIP 2016.*

SAŽETAK

Autohtona hrvatska pasmina, crna slavonska svinja – fajferica, potječe iz 19. stoljeća s farme Orlovnjak u blizini Osijeka. Crna slavonska svinja bila je najbrojnija i najznačajnija pasmina svinja u Slavoniji do sredine 20. stoljeća. Uključena je u Nacionalni programa očuvanja izvornih i zaštićenih pasmina domaćih životinja u Republici Hrvatskoj, jer je populacija fajferica drastično smanjena te se našla u kritičnoj fazi za opstanak nakon II. svjetskog rata. Kako bi se pružile relevantne informacije s poljoprivrednog, povijesnog, ekonomskog, kulturnog i etnološkog stajališta, okupljen je tim istraživača s različitih znanstvenih područja (biotehničke znanosti te društvene i humanističke znanosti). Ova neobična kombinacija spojila je naizgled nespojivo: poljoprivredu, povijest, umjetnost i informatologiju. Stoga je podnesena prijava na natječa za istraživačke projekte (interdisciplinarni projekt u ovom slučaju), što je rezultiralo dobivanjem sredstava za Virtualni muzej crne slavonske svinje - fajferice *od Sveučilišta J. J. Strossmayera u Osijeku (IZIP 2016).* Virtualni muzej crne slavonske svinje - fajferice *pruža znanstvenicima i istraživačima, studentima, turistima i ostalim zainteresiranim kategorijama informacije o povijesti uzgoja same pasmine te njezinu očuvanju. Mrežna stranica predstavlja interaktivno virtualno putovanje kroz povijest crne slavonske svinje, bazu podataka o primarnim izvorima, odnosno poveznice na relevantne izvore. Nadalje, mrežna stranica je mjesto koje spaja tradiciju i umjetnost s poljoprivredom (od žirenja do naivne umjetnosti, kiparstva i književnosti). Digitalizacija omogućuje promociju ovog segmenta kulturne baštine te je čini dostupnijom zainteresiranim korisnicima, kao što je to slučaj u sličnim projektima koje su proveli brojni muzeji, knjižnice, galerije i arhivi širom svijeta.*

Ključne riječi: *crna slavonska svinja, virtualni muzej, interdisciplinarni projekt, Sveučilište J. J. Strossmayera u Osijeku, IZIP 2016.*

1. Introduction

According to the ICOM Statutes, adopted by the 22nd General Assembly in Vienna, Austria (2007), “a museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.”[1] When it comes to agriculture, “agricultural museums include museumsof agricultural technology, the food industry, forestry, horticulture, viticulture, fishing, hunting and other agricultural servicing and processing industries. Many agricultural museums began as national collections during the mid-to late-19thcentury as repository of patent models, of flora collected by agricultural scientists, and of specimens used in international exposition exhibits. Funding came from “the state” and audiences familiar with farming and rural lifeunderstood the objects on display with little to no interpretation required. But times changed, public funding decreased or dried up, and visitation declined as fewer and fewer members of the population had any direct knowledge of rural life or experience with farms and agricultural production.“ (Reid 2017)

[1]http://icom.museum/the-vision/museum-definition/

2. AIMA

2.1. History of AIMA

Association internationale des musées d'agriculture or The International Association of Agricultural Museums (AIMA), an all-volunteer organization and an affiliate of ICOM, gathers professionals from agricultural museums all over the world. It promotes scientific research and stimulates collaboration among museum professionals and agricultural museums. AIMA was established in 1966 in Prague in then Czechoslovakia, following the initiative of the Hungarian and Czechoslovak national museums. It has aimed to provide an international platform for scholars where agricultural history and other related disciplines could meet to exchange ideas, promote research, and mutually cooperate, despite the diverse nature of "agricultural museums", some national, some university, but the majority funded by local and regional government, farmers' association, or voluntary organisations. At the time, most museums regarded themselves and were regarded as "knowledge-based institutions", responsible for conserving and interpreting the past, with mainly rural audiences or individuals with a scholarly interest in rural history. Today, however, the situation has changed dramatically: the declining importance of farming in national life forces agricultural museums to find new ways how to appeal to a predominantly urban population, with little or no knowledge of farming or the countryside. Nevertheless, agricultural museums flourish despite the fact that agriculture has lost its primacy and most people live in towns. Being under pressure to broaden their appeal and to inform the wider public, museums have become more utilitarian and socially more inclusive. Among others, themes such as art and agriculture (sic!) appeal to a wider audience. And, last but not least, they embrace IT. (Collins, 2016)

2.2. Agricultural museums and Croatia

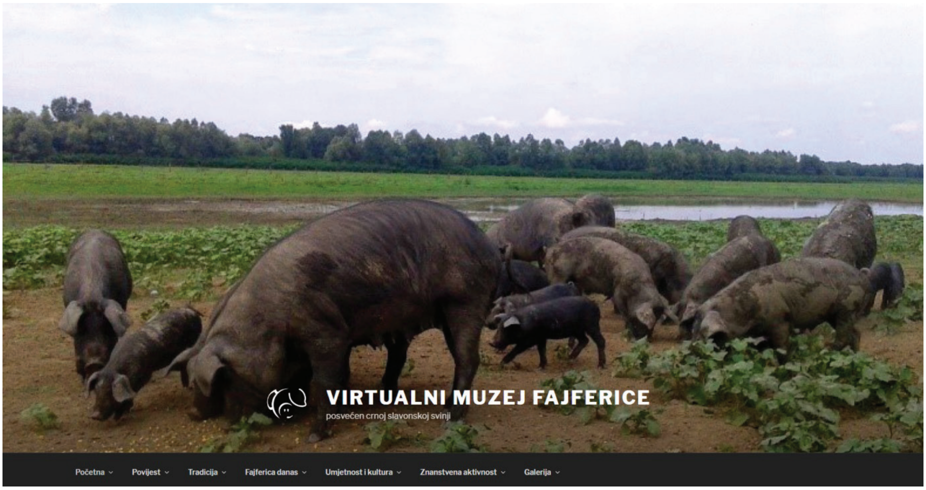
The work as well as the number of AIMA members are impressive: according to Woodhead and Stansfield (1994) there were some 300 AIMA members from 35 countries in 1992. Sadly, there is no agricultural museum in Croatia at all.[2] Nevertheless, in 2015, a well thought out project proposal was written by one of the authors of this paper, within the frames of which the start the Museum of Traditional Livestock Farming was planned. The project involved the utilization of an agricultural area (1.185 ha)owned by the Republic of Croatia and situated in Brod-Posavina county, i.e. municipalities Oriovac, Brodski Stupnik and Bebrina, known as Jasinje fish ponds. For a longer period of time, a part of it has not been farmed. According to reports written and prepared by Hrvatske vode, a legal entity for water management in the Republic of Croatia, this unutilised agricultural area could not be used for fresh water fish farming any longer. Despite the initial interest, the project was not implemented, because of alack of financial support.

As of the 2010s, the development of IT technologies, especially digitalization of information and the increased capacity of digital information storage, enabled the existing museums to enter the virtual world and serve not only researchers and scholars, but also the general public. In addition, virtual museums have been launched. In this way, the authors were enabled to provide all available information on Black Slavonian Pig – fajferica, Croatian indigenous breed, from past and present to specialists and students as well as the general public.

[2]There were some attempts in former Yugoslavia to start an agricultural museum in Vojvodina. Several attempts failed, but in 1993 it was established in Kulpin as civil society. Since 2004 it has been working with the Museum of Vojvodina.

3. Virtual Museum of Black Slavonian Pig - fajferica

Image 1 *Page layout of the web site*



Source: www.fajferica.eu

As stated in the paper "Black Slavonian pig – the traces of cultural heritage in eastern Croatia"(Kuharić et al., 2017), the authors of this paper submitted an application and funds for *Virtual Museum of Black Slavonian Pig* were allocated.[3] The team members were namely gathered from two J. J. Strossmayer University units (Faculty of Agriculture and Faculty of Humanities and Social Sciences), Museum of Slavonia Osijek and City Library Subotica (Republic of Serbia). In order to manage the project successfully, the so called SMART objectives (Specific, Measurable, Achievable, Realistic and Timely) were taken into accoount. The team members agreed to set the following project objectives:

1. taking a practical view of LAMs (libraries, archives and museums, often called "memory institutions") records from the end of 19th and the beginning of 20th century in the Republic of Croatia, Austria, Hungary and the Republic of Serbia regarding both historical and cultural importance of the fajferica
2. collecting:
   - old and recent professional and scientific papers on fajferica
   - video and audio records
   - materials on acorn feeding (naïve art, sculpture, literature)
3. digitalization
4. web site creation

[3]Since 2013, Josip Juraj Strossmayer University of Osijek has been announcing internal calls for applications of scientific-research and artistic projects, which are supported by the University business fund. The call for applications refers to projects that are of particular strategic interests to the University of Osijek. Projects are realized in duration of one year, and the Call is open to teachers and staff of the University. The evaluation of received proposals is based on anonymous reviews on a special review form performed by the University teachers. Ranking and selection of projects for funding is based on the method of multi-criteria decision and cluster analysis. (available at:http://www.unios.hr/en/research/internal-calls/)

by applying the following methods

1. investigation of private and public records (LAMs)
2. decription
3. comparative analysis
4. conlusion (the significance of Osijek and Eastern Slavonia in the European context based on the indigenous pig breed)

From April 2017, information from various historical and modern sources have been collected, files organized and put on the web site. Beside its creation, www.fajferica.eu (Image 1), two scientific papers were written with regard to the Virtual museum of black Slavonian pig – fajferica. Furthermore, it is the University News[4] No.33 (February 2018) that brought a report on our project supported by the University business fund (Image 2).

Image 2 *The University News excerpt*


Za potporu projektu doc. dr. sc. Vladimira Margete odobreno je 30 000 kuna

Projekt „Virtualni muzej crne slavonske svinje – fajferice"

DH

Vladimir MARGETA

Cilj ovoga projekta bio je zaživjeti suvremeni koncept zaštite i očuvanja baštine prema kojemu se na baštinu gleda kao na kolektivnu memoriju, a na kolektivnu memoriju kao na neprekidni proces izgradnje sustava informacija.
Postupkom digitalizacije građe o crnoj slavonskoj svinji – fajferici osigurat će se promidžba njezine kulturno-povijesne važnosti i učiniti taj odsječak baštinske kulture dostupnijim zainteresiranim korisnicima, kao što je slučaj sa sličnim zbirkama u svjetskim galerijama, muzejima, knjižnicama i arhivima.
Radni plan istraživanja proveden je sukladno zadatcima koji su postavljeni pred izvršitelje projektnih aktivnosti kako slijedi:

- analiza sadržaja (kraj 19. i početak 20. stoljeća) baštinske građe pohranjene u AMK ustanovama u Hrvatskoj, Austriji, Mađarskoj i Republici Srpskoj, a vezano uz povijesno-kulturno značenje pasmine;
- prikupljanje starih i recentnih znanstvenih i stručnih tekstova o pasmini, video i audiomaterijala iz različitih medija o pasmini, kulturnog i baštinskog naslijeđa o „žirovanju/žirenju" (naivna umjetnost, kiparstvo, književnost);
- izrada popisa primarne i sekundarne literature o pasmini te baze podataka o obiteljsko-poljoprivrednim gospodarstvima (OPG) koji se bave uzgojem i držanjem crne slavonske svinje;
- digitalizacija i postavljanje materijala na mrežnu stranicu www.fajferica.eu.

Realizacija toga projekta važan je doprinos očuvanju i promicanju autohtone crne slavonske svinje kao dijela povijesnoga, tradicijskoga i kulturnoga identiteta prostora i ljudi koji ovdje žive.

Svinjari i fajferice

PROJEKTNI TIM

- Voditelj je projekta doc. dr. sc. Vladimir Margeta s Poljoprivrednoga fakulteta u Osijeku, a suradnici su Darija Kuharić, mag. educ. philol. angl. et germ. s Poljoprivrednoga fakulteta u Osijeku, zatim dr. sc. Tomislav Jakopec i Mirna Gilman, mag. informatologije s Filozofskoga fakulteta Osijek, dr. sc. Marina Vinaj iz Muzeja Slavonije Osijek te Bernardica Ivanković iz Gradske knjižnice u Subotici (Srbija).

Source: The University News excerpt No.33, February 2018

The web-page is in Croatian (soon to be translated to both English and German) and it is regularly updated. (Table 1)

[4]The University News as a part of the Glas Slavonije daily is published once a month and presents the University of Osijek news and information. It consists of several permanent columns and other changeable parts with an issue highlight. Permanent columns of the University News in Glas Slavonije present CVs and activities of prominent persons at the University of Osijek, its constituent units, university journals and handbooks, scientific corner and other information about popularization activities at the University of Osijek.
The changeable part of the University News refers to descriptions of new study programs, topics related to studies and studying, international activities at the University, topics related to organization of scientific-research work, project results, information on conferences, science popularization, student life, infrastructure development and equipment acquisition, etc. (available at:https://www.unios.hr/en/about-university/university-bulletin/)

***Table 1** Contents of the Virtual Museum of Black Slavonian Pig – fajferica*

❖ Main Page
▪ About us
▪ About the project
▪ Contacts
❖ History
▪ The Pfeiffers (Image 3)
▪ On breeds that led to the creation of fajferica
▪ 19th century (Image 4)
▪ 20th century
❖ Tradition
▪ Pig farming
▪ Pig pasturing
▪ Pig acorn feeding
▪ Traditional customs
❖ Fajferica Today
▪ Breeding
▪ Fajferica Association
▪ List of farmers
▪ Fajfericas in media
❖ Arts & Culture
▪ Literature
▪ Arts
❖ Science & Research Activities
▪ Books
▪ Scientific papers
▪ Doctoral and master thesis
▪ Master thesis
❖ Gallery
▪ Modern photographs
▪ Old photographs
▪ Video clips

Source: the authors

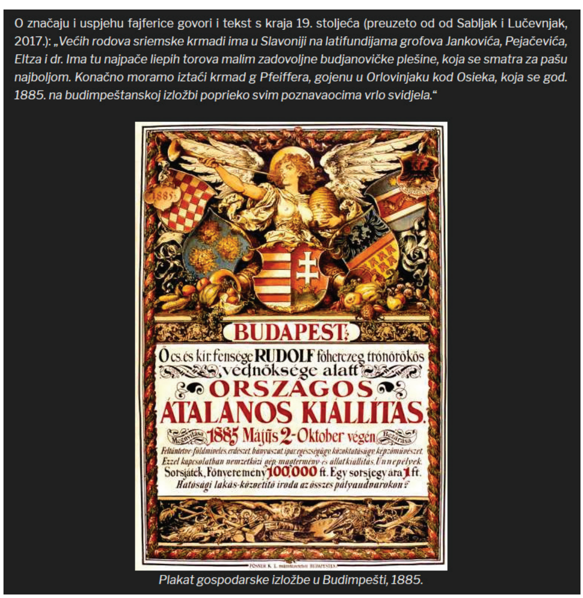
4. Conclusion

From the economic and agricultural point of view, the Virtual Museum of Black Slavonian Pig – fajferica should play an important role in the promotion of the indigenous breed as well as its meat production and processing, in increasing the number of small farmers interested in keeping it in the traditional way as well as connecting them, since the practice is spread all over Croatia. Hopefully, also abroad: the latest interest in fajferica was shown by a Chinese consultant from the Sichuan province, who visited Osijek in January this year and met with black Slavonian pig producers. Sichuan's market is interested in fresh fajferica's meat import, especially of those extensively kept. Last but not least, in providing scholars, researchers and students with fajferica's historical background as well as its role in arts and literature.

Image 3 *History of the family and the breed*

Source: http://fajferica.eu/tradicionalni-uzgoj/

Image 4 *History of the family and the breed*



Source: http://fajferica.eu/19-stoljece/

We would like to extend our sincere gratitude and appreciation for all of the help and dedication provided by Mrs. Marina Vinaj, Ph.D., Museum of Slavonia Osijek, and Mrs. Bernardica Ivanković, City Library Subotica (Republic of Serbia), whose professional experience and knowledge brought many important facts to light in the project. Eventually, some helpful information about the Pfeiffers' life (Najcer Sabljak and Lučevnjak, 2017) enabled the authors to fill in some missing gaps in the rich history of the famous family.

REFERENCES

AIMA Strategic Plan 2016-2020 (12 May 2016). https://www.agriculturalmuseums.org/wp-content/uploads/2017/05/aima_strategic_plan_2016-2020.pdf (accesssed 30 March 2018)

Collins, T. (2016): The history of AIMA: a personal perspective. https://www.agriculturalmuseums.org/ (accesssed 30 March 2018)

Najcer Sabljak, J., Lučevnjak, S. (2017): Zaboravljena baština obitelji Pfeiffer i slikar Hugo Conrad von Hötzendorf in Zbornik radova 24. Znanstvenog skupa "Nijemci i Austrijanci u hrvatskom kulturnom krugu", Godišnjak Njemačke zajednice- DG Jahrbuch, 24 (2017), 24; 163-188 https://www.bib.irb.hr/pregled/znanstvenici/330350 (accesssed 30 March 2018)

Reid D. A. (2017): Interpreting Agriculture at Museums and Historic Sites. Rowman & Littlefield

Tempír Z. (1989): Establishment and Initial Development of International Agricultural Museum Association. Acta Museorum Agriculturae 22, https://www.agriculturalmuseums.org/wp-content/uploads/2015/01/acta-1989.pdf (accesssed 30 March 2018)

Woodhead P., Stansfield G. (1994): Keyguide to Information Sources in Museum Studies. Mansell Publishing Limited, London

Mirjana Paušak, MArc
Valpovština Museum
1 Prandau-Normann Castle, Valpovo
Phone / Fax: +38531-650-639
E-mail address: pausakm@net.hr

THE HERITAGE OF THE NOBLE PRANDAU - NORMANN FAMILY AS A POTENTIAL FOR THE DEVELOPMENT OF CULTURAL TOURISM IN EASTERN CROATIA

BAŠTINA PLEMENITAŠKE OBITELJI PRANDAU – NORMANN KAO POTENCIJAL U RAZVOJU KULTURNOG TURIZMA ISTOČNE HRVATSKE

ABSTRACT

Eastern Croatia is nowadays perceived in the context of cultural tourism only through ethnological heritage, and in the Osijek-Baranja County recognized destinations are Kopački rit Nature Park and Đakovo with its diocese and horse-breeding farm. However, in the context of cultural heritage, the Osijek-Baranja County offers much more, and one of the examples is this year's project of the four cultural institutions - the exhibition of the heritage of noble families Prandau-Normann who have influenced the development of the economy and culture for several centuries in these areas, and left behind a wealth of today's exceptionally valuable cultural heritage. It is little known that the castle in Valpovo is among the three most valuable castles in continental Croatia, and in the area there are 220 castles and manors. Upon arrival in the Valpovština Museum located in the castle, one enters the residential setting of Valpovo noblemen. All the items at the permanent exhibit of the Heritage of the Prandau-Normann noble family, or the current setting of the joint exhibition "Valpovo Noblemen - Everyday Life" are original items from Valpovo castle and family heritage. The legacy contains only recently discovered photographic collection by some of the largest 19^{th} and early 20^{th} century photographers in Europe and the world. The joint exhibition **Valpovo's Noblemen - Prandau and Normann** *can rightly be considered the first true pilot project and a spectacular example of how to organize a comprehensive project in the context of the cultural-tourist supply of the County and to bring to the surface up to now unused high potential resources.*

Key words: *Noble family Prandau-Normann, Valpovo, cultural tourism, historical heritage.*

SAŽETAK

Istočna Hrvatska danas se u kontekstu kulturnog turizma percipira tek kroz etnološku baštinu, a u Osječko baranjskoj su županiji prepoznate destinacije Parka Kopački rit, te Đakova s biskupijom i ergelom. Međutim u kontekstu kulturne baštine Osječko-baranjska županija nudi mnogo više, a jedan od primjera i ovogodišnji je projekt četiri kulturne ustanove u vidu izložbe ostavštine plemićkih obitelji Prandau –Normann, koji su svojim utjecajem na razvoj privrede i kulture obilježile nekoliko stoljeća na ovim prostorima i iza sebe ostavila bogatu danas iznimno vrijednu kulturnu baštinu. Malo je poznato da dvorac u Valpovu spada među tri najvrednija dvorca u kontinentalnoj Hrvatskoj, a na području koje se nalazi 220 dvoraca i kurija. Dolaskom u valpovački muzej koji se nalazi u dvorcu ulazi se u stambeni ambijent valpovačkih vlastelina. Svi predmeti na stalnoj izložbi

Ostavština plemićke obitelji Prandau-Normann, odnosno u sadašnjem postavu djela zajedničke izložbe „Valpovački vlastelini-Svakodnevni život“ su originalni predmeti iz valpovačkog dvorca i ostavštine te obitelji. U ostavštini se nalaze tek nedavno istražena fotografska zbirka nekih od najvećih fotografa 19. i početka 20. stoljeća u Europi i svijetu. Zajedničku izložbu Valpovački vlastelini Prandau i Normann možemo s pravom smatrati prvim pravim pilot projektom i oglednim primjerom kako organizirati sveobuhvatni projekt u kontekstu kulturno-turističke ponude županije i na površinu izvući do sada ne korištene resurse visokih potencijala.

Ključne riječi: *plemićka obitelj Prandau-Normann, Valpovo, kulturni turizam, povijesna baština*

1. Positioning the Cultural Heritage of Noblemen Prandau and Normann

Although there is great potential for developing cultural tourism, it is still minimally used in Eastern Croatia, namely in Slavonia, Baranya and Srijem. Some of the potential cultural destinations have only recently been significantly promoted. Slavonia is mainly perceived through ethno tourism, and in the Osijek-Baranja County, only the Nature Park of Kopački rit and Đakovo with its diocese and horse-breeding farm have been recognized. However, Osijek-Baranja County offers a lot more. Four cultural institutions (State Archives in Osijek, Museum of Fine Arts in Osijek, Museum of Slavonia and Valpovština Museum) were guided by this idea in designing a joint project of a unique exhibition divided into four segments at four locations. Namely, all four institutions exhibit the legacy of the Valpovo noblemen Prandau-Normann, everyone in the part that is at the fundus of their institution. Thus, the Osijek State Archives exhibits archival material and deals with heraldry. The Museum of Slavonia presents a numismatic collection donated by Count Rudolf Normann and the library of this family, which counts more than 9,000 books. The Museum of Fine Art in Osijek exhibits the artwork from the legacy stored in their institution. The Valpovština Museum, located in the castle in Valpovo, home of the baronial family Prandau and the Counts Normann family for 220 years, has dealt with the materials that relate to the everyday life of the nobility.

2. Historical-chronological Mapping of the Noble Family in Valpovo Area

Valpovo's manor house, castle and family members Prandau and Normann are yet to be branded as a cultural offer of the Osijek-Baranja County. There are a few people besides those in a narrow cultural circle who know that the Valpovo castle is one of the three most valuable castles in continental Croatia, in the area where there are 220 castles and manors, some in better, and some in worse state of preservation.[1] The 1901 census lists 16,150 hectares of Valpovo's manor estate, which makes it the largest in the district of Osijek in Virovitica County. There were two larger estates in this county, Pejačević estate which was bigger by 4000 hectares than the Valpovo estate, and Counts Mailaht estate in Donji Miholjac, bigger by 10,000 hectares.[2] It should be noted, however, that the estate in Donji Miholjac was part of the Valpovo manor before its division on successors (three daughters) of Baron Gustav Prandau. At the time of this census in 1901 there was also a separate estate in Bizovac which once belonged to Valpovo. When the surface of all three manor houses is summed up, the result is an area of approximately 50,000 hectares, just as much as the last baron of Prandau had before the estate was divided by his daughters.[3] Therefore, it is no wonder that for a time he was the largest taxpayer in the Habsburg Monarchy.[4] These data are necessary to cite in order to indicate the richness of this family and, consequently, the purchasing power that left rich material wealth in the artwork, collections and

---

[1] Šćitaroci, M. and B. (1998): **Dvorci i perivoji u Slavoniji**. in Zagreb;
[2] Ibidem
[3] Mažuran, I. (2004): **Valpovo - 7 stoljeća znakovite prošlosti**. in Valpovo;
[4] Najman, S. (1997): **275 godina od osnutka vlastelinstva Valpovo**. Valpovo Yearbook 1997;

objects of everyday life. During the evaluation of the castle, the Valpovo castle gets the points used for such evaluation, due to its preservation, historical layers and preservation of the entire complex along the castle. Obrad Šćitaroci puts it in third place with 71 points, in front of it is only Trakošćan with 76 points and Šèrbinec (near Zlatar) with 73 points.[5] The baroque castle was implanted in the 15th century fortress walls. From that period, the tower was preserved, which is a beautiful viewpoint. Winding stone staircase climbs on three levels. On the ground floor there was a well and food storage, which is still visible today. On the ceiling of the first floor is the coat of arms of the Morović family, the fortress builders.[6] The coat of arms is enveloped by a dragon, and this heraldic element is interpreted by the fact that Morović family belonged to the order of the dragon knights (elite guardians of the king). We mention to the organized school groups coming to visit the castle as interesting that Wallachian prince Vlad III Dracula belonged to the same order.

The Valpovština Museum, besides its material heritage, as part of its ambience offers its visitors a story about the ghost in the castle, "Valpovo White Lady", which has its historical background in documentation in the Pécs Archdiocese and in the chronicles of the Capuchin monastery in Osijek. Franjo Kuhač also writes about Valpovo's White Lady in his book ***Valpovo and Its Masters***. And the story of her can be read on the front page of Virovitica County Gazette from 1899, which is exhibited in the museum. From the top of the tower you can see the neighbouring Hungary. Count Rudolf Normann had vineyards in the Hungarian village of Villány, today known tourist and wine destination. The Valpovština Museum stores labels for bottles of wine produced in Villány from the Count's vineyards. There are also two-meter thick outer walls of the west wing of the castle from the time of Valpovo's fortress, as well as a trench around the castle once filled with water from Karašica and Jadica. The foundations of today's baroque court chapel are also the remains of the Romanesque chapel from the previous period. Today, these Romanesque elements can be seen in the apse of the chapel.

The Valpovo estate was given to Baron Petar Prandau, who was a chamberlain and court counsellor, by the emperor Charles VI on New Year's Eve in 1721. Within the ruined walls of the fort, Petar Prandau has built a baroque castle, as we see it today. The castle was built according to documentation in a few years. Baron Petar Prandau himself did not live in Valpovo, but his son and successor Ignjac lived there. Ignjac Prandau is credited, among other things, for the construction of the first theater building in Slavonia. He raised the theatre building within the baroque horse stables in the immediate vicinity of the castle in 1809. He was also responsible for decoration of the park along the castle, continuing to the forest hunting ground. This entire complex preserved along the castle contributes to the high evaluation of Valpovo castle.[7]

Valpovo castle has another specialty. At the time of nationalization of the castle, Countess Julijana Normann resided in it, which will have the effect that the entire inventory used by family members in the castle for 220 years will remain in it. It should be noted that few castles at the moment of nationalization were equipped with the original inventory of the nobility. In many, the landlords did not reside anymore (the castles were sold or residents evicted). Upon arrival to the Valpovo museum located in the castle, one enters the residential setting of Valpovo's noblemen. All the items at the permanent exhibit Heritage of the Prandau-Normann noble family, or in the current exhibition of the joint exhibition "Valpovo Noblemen - Everyday Life" are original items from Valpovo castle and the heritage of the family. All these specialties are still under-recognized in the community, and thus too little used as a potential.

3. The Legacy through the Lens of Music, Architecture and Applied Arts

Karlo Prandau was a composer and contributed to the improvement of the fisharmonic (the instrument that was the forerunner of harmonium). A well-known musicologist, Franjo Kuhač, wrote about this

[5] **Dvorci i ljetnikovci**. International Scientific Conference in Varaždin;
[6] Stanić, D. (2005): **Dvorac Prandau-Normann i nekadašnji vlastelinski kompleks u Valpovu**. Hrvatska revija, no.1;
[7] Zaga, V. (1995): **Idejni prijedlog korištenja dvorca Valpovo**. MDC;

composer in his book ***Valpovo and Its Masters***. He also listed a list of all the Karlo's note records that were then kept in the enormous manor library in Valpovo. His brother Baron Gustav Prandau was dedicated the translation of the Catechism of Music from 1875 from German because he was the patron of the Croatian edition of the book. The translation in which an acknowledgment was printed on the two sides is exhibited in the Valpovo Museum. Gustav Prandau was also the first director of the Music Institute in Zagreb. The archives in Osijek are in possession of the thanksgiving given to Baron Gustav Prandau by the mentioned Music Institute. As the first donator of the organ for Musikverein in Vienna, the name of Baron Gustav Prandau was engraved on the central pipe in the prospect of these organs.[8] In addition, Baron Gustav Prandau was the largest donor to the Yugoslavian Academy of Sciences and Arts, today the Croatian Academy of Sciences and Arts, besides Josip Juraj Strossmayer.

Count Rudolf Normann (the second generation of Normanns in Valpovo), the son of Ana Marija and Count Konstantin Normann, donated a bishop's staff to bishop Strossmayer on the occasion of 50 years of episcopate and consecration of the Osijek concathedral. The staff on which the coat of arms of Normanns is engraved is preserved in the Đakovo Archdiocese, occasionally used by the bishop himself. Another interesting thing connects this family with the Osijek concathedral. Family members have donated seven stained-glass windows, among which three in the central place in the apse above the main altar. Below the displays on the stained-glass windows are family coats made in the same technique.

The building on the main Osijek square was also built by the Normann family. Today, it is the seat of the Osijek-Baranja County. Until a few years ago, the information about the builders of this palace was little known, but in the past few years, it is mentioned more and more in the public, while even less people know about the church stained-glass windows. It is also scarcely known that in the Capuchin Church located near the County building, on the choir banister, there is an inscription saying that donations for the choir organ were given by Counts Pejačević and Barons Prandau. On the site of the palace built by the Normanns, once there was an old Osijek residence of Baron Prandau. It was a somewhat lower building than today. The Valpovština Museum exhibits a photograph of the Osijek Square with the original Baron Prandau building.

Since there are various objects from the legacy of the noble family in the Valpovština Museum, the museum collection has some rarities and special features. These are objects related to the rulers. The Counts Normann are the German nobility who received the Countship from the Württemberg Prince for help in creating the Principality.[9] In the museum there are lithographs signed with Philip Cristian Baron Normann and later Philip Cristian Count Normann. There is also a wonderful glass with a brass secessionist frame on which the years 1803 and 1903 were engraved. The glass was made for the occasion of the centenary of the founding of the Principality of Württemberg. This is the area around Stuttgart, where Ehrenfels Castle still stands today, by which the Counts Normann have gotten the adjective Ehrenfels.

The museum fundus contains sketches and drawings of family coats of arms, work by Ernst Krahl, who is also the author of coat of arms of the Republic of Austria after the collapse of the Austro-Hungarian Empire. The estate also owned rich hunting grounds. Photograph of Ernst Günther, the brother of the last German emperor Wilhelm II, is also exhibited in the hunting room of the Valpovština Museum, which features numerous hunting trophies. The photograph has a signature of the Duke, and on the back a note that he was hunting for deer in a hunting house in the Normanns in 1912 and 1913. The hunting houses were richly equipped, so the hunting room of the museum exhibits a dinner set and a coffee set with hunting motifs made in Porzellan Haus Wahliss, but also washbowls and even night pots. In the exhibition halls, you can also look at the silverware, mostly made in Josef Carlo Klinkosch workshop, one of the best silversmiths who worked for Franz Joseph I himself, as well as porcelain items of famous porcelain manufacturers, such as Maissen, Viennese porcelain manufactories. Silver has an

[8] Stanić, D (2007): **Barun Gustav Prandau (1807.-1885.) - ljubitelj glazbe i mecena**. Valpovo Yearbook 2007;
[9] Paušak, M. (2012): **70 godina od smrti posljednjeg valpovačkog grofa**. in Valpovo;

imprinted or embossed coat of arms of the Normann family. Glassware also has engraved initials RN (Rudolf Normann). On some porcelain items, the coat of arms of Barons Prandau was drawn. Room settings and exhibited items lead visitors to the living environment in the castle at the time the nobles were staying there. Somo of the items tell life stories, like a wedding wreath of noble Julijana Normann, born Vest.[10] Then there are photographs and memories of Julijana and Rudolf Normann's silver wedding anniversary, and photographs of the golden wedding anniversary. Within the library materials legacy, most of the noble family's library is located in the Museum of Slavonia. Only a small part remained in the possession of Valpovo Castle. Today, the valuable and beautiful Book of the Emperor (Das Buch vom Kaiser) occupies a special place at the permanent exhibition, and it is actually an illustrated biography of the Emperor and King Franz Joseph I. The book was printed in 1898 in Vienna, Budapest and Leipzig, and was a masterpiece of the Viennese secession. It is embedded in a golden yellow skin with decorations on the front. It is stored in its original protective case. The editor of the book is Max Herzig and the author Josef Alexander Freiherr von Helfert. The book is decorated with illustrations by as many as 15 artists, including Josef Hofmann, who is currently considered as the co-founder of the Viennese secession with Klimt, and Koloman Moser.[11]

3.1. Photographic Noble Collection of World Scales

As wealthy members of the nobility, the Counts Normann travelled through Europe and Asia Minor, and as souvenirs they brought photo albums of towns and these regions. The museum today inherits twenty albums from 1887 to 1889, in which there are works of then the most famous photographers of the travel destinations. The albums are digitalized and can be viewed as part of a setting and museum exhibition or purchased as a museum souvenir. City albums come from nine countries, and thirty cities and well-known summer resorts have been recorded. Twelve world-renowned photographers have been determined as the author of photos in the albums, as well as two publishing houses. Among them are photographer Guillaume Berggren (1835-1920), Luigi Fiorillo (1847 - 1898), Felix Bonfilsa (1831-1885), a French photographer, known as one of the pioneers of photography in the Middle East. Then there are works by the brothers Alinari, and this is the oldest photographic company that is still working. The company today has a huge photo archive and a photography museum in Florence. Then there are works by Giorgio Sommer, one of Europe's most important and most prolific photographers of the 19th century, who was also the official photographer of King Victor Emmanuel II, while Juan Laurent, whose photographs are also owned by the Valpovština Museum, was the official photographer of the Spanish queen. Today, around 12,000 original glass negatives of this photographer are kept in Madrid. There are also photographs of Emilio Beauchy, whose photographs were also published in magazines and he is considered as one of the first Spanish photojournalists, as well as photographs from company Stengel & Cosa, based in Dresden.

The museum also owns a large number of private photos of family members. Photographs of members of baronial family Prandau and count family Normann originate from 45 different photographic studios, from 10 countries and 30 cities. Many of these photographers had well-known photographic studios in which many celebrities from science and art were photographed, as well as royal families. Carl Pietzner (1853-1927), who also photographed the Emperor Franz Joseph I himself, made many photographs of the museum collection. The portrait of Countess Julijana Normann was taken in the studio of Ludwig Grillich (1855-1926). Grillich was a portrait photographer who portrayed, among others, Johann Strauss, Johannes Brahms and Sigmund Freud. Photographers like Károly Koller (1838-1889), József Borsos (1821-1883), and Oszkár Kallós (1874-1955), whose photographs were also published by the New York Times, should be mentioned. There are also works from photo studio Adeler, atelier of prof.

[10] Paušak, M. (2017): **Vodič kroz zbirke**.

[11] Paušak, M. (2015): **Tiskana ostavština valpovačkih vlastelina**. in Valpovo;

Fritz Luckhardt (1843-1894) who specialized in portraits of celebrities, especially artists, and brothers Winter.
We also have photographs of Count Rudolf Normann from photographic studios in Athens, Cairo and Seville. The Count is photographed in folk costumes, and the photo from Athens is dated 17 February 1887. In Athens he was photographed in the studio of brothers Rhomaides who are known as photographers of many archaeological sites. In Seville he was photographed in the studio of Rodríguez (1863-1923), who started his activity in the eighties of the 19th century on the Alhambra terraces. In his photographic studio he photographed tourists dressed in historical costumes and sold postcards to which he was the author. In Cairo, he was photographed in a famous photographic studio by Stromeyer and Heymann, who are referred to as the main photographers in the tourist guides of that time for Egypt.
During the first two years of the World War I, Countess Julijana Normann and her daughters ran the Red Cross Hospital. There are several pictures of the hospital and the wounded, and one was shot by Franjo Svirčević, a photographer from Osijek.[12]
One of the peculiarities of our museum is the inheritance of the fundus of the nobility who have nurtured the cult of the imperial family. We are probably the only museum in Croatia that has photo albums of the 60th anniversary of Franz Joseph's coronation, and perhaps the only one who have a representative Emperor's Book.
The two grey albums of Kaiser-Huldigungsfes in 1908, in thin cardboard boxes, are commemorating the celebration of the sixty-year-anniversary of Franz Joseph's coronation. In both albums there are 35 pieces of photographs of the festive parade. In the parade shows live images that represented the history of the Habsburg Monarchy. Behind them were representatives of all nationalities of the Empire in folk costumes with music. There were more than 12,000 participants in the parade (4,000 in the historical pictures and 8,000 in the national groups). The event attracted about half a million viewers. The parade lasted for three hours. The Association of Young Viennese Artists Hagenbund was in charge of an artistic impression of the procession. Hagenbund is a Vienna art association founded by Heinrich Lefler and Joseph Urban in 1900. The association had a decisive influence on the art scene between 1900 and 1938 in Vienna and Central Europe. Artist Heinrich Lefler was in charge of historical scenery, and architect Joseph Urban for design and imperial stand. [13]

4. Chapel of St. Roko as the Last Resting Place of the Noblemen

On a green hill that is only a kilometre from the castle is a votive church of St. Roko with a crypt and 17 graves with the remains of Prandau and Normann family members. The Chapel was erected by Baron Ignjac Prandau, which is attested by a Latin text engraved on the facade. The chapel was originally built as votive, and Ignjac's son Baron Gustav Prandau in 1860 ordered a thorough reconstruction and subjugated the crypt.[14] In the upper nave of the chapel of St. Roko is the memorial centre of the Danubian Swabs, the only one in Croatia. Sightseeing of the crypt and the memorial centre are part of the Valpovo museum offer.
The joint exhibition ***Valpovo's Noblemen - Prandau and Normann*** can rightly be considered the first true pilot project and a spectacular example of how to organize a comprehensive project in the context of the cultural-tourist supply of the County and to bring to the surface up to now unused high potential resources.

---

[12] Paušak, M., Najman S. (2014): **Odjeci prvog svjetskog rata u Valpovštini**. exhibition catalogue, in Valpovo;
[13] Paušak, M.: **Fotografska baština iz ostavštine grofovske obitelji Normann u Muzeju Valpovštine**. Informatica Museologica 49/2018;
[14] Lacković, E. (2016): **220 godina Kapelice sv. Roka u Valpovu**. in Valpovo;

5. Conclusion

As stated in the Strategy for Development of Cultural Tourism of the Government of the Republic of Croatia, "Cultural Tourism is one of the special forms of tourism that offers this branch of the Croatian economy a long-term competitive advantage."[15] It is recognized that the tourism potentials of our country's cultural heritage are beginning to be recognized while, on the other hand, there is already a strong demand among our former tourists, both foreign and domestic, for this form of tourism. From the point of view of demand, according to estimates of the World Tourism Organization (WTO) already 37 percent of all international travels include some form of cultural tourism, and this demand is expected to grow by 15 percent annually until 2020. In 2017, the Osijek-Baranja County presented its Tourism Master Plan in which it has not fully recognized the potential of cultural tourism. According to official data, approximately 70,000 tourists annually visit Trakošćan Castle, and it is almost unknown that the Prandau-Normann castle in Valpovo, regarding its preservation and the value of the complex, is on the third place in continental Croatia. Nonetheless, only 10,000 visitors per year visit this castle. This is why the joint exhibition ***Valpovo's Noblemen - Prandau and Normann***, in which four museum institutions from the area of Osijek and Valpovo are taking part together, is an example of excellence in the joint initiation of the cultural brand building of this area. It is just one of the many ideas to present the past in order to develop cultural tourism in the region. This exhibition could initiate and become a guiding light in the recognition of a "dead capital" lying in the cultural heritage, which could and should create a new added value in the future. Namely, the legacy that cultural institutions from the Osijek area inherit today, based on the legacy of the Prandau-Normann noble family, is not a small resource for developing a part of cultural tourism offerings and attracting new guests, especially those seeking the roots of Central European culture and heritage.

REFERENCES

Lacković, E. (2016): ***220 godina Kapelice sv. Roka u Valpovu***. in Valpovo;
Mažuran, I. (2004): ***Valpovo - 7 stoljeća znakovite prošlosti***. in Valpovo;
Najman, S. (1997): ***275 godina od osnutka vlastelinstva Valpovo***. Valpovo Yearbook 1997;
Paušak, M. (2012): ***70 godina od smrti posljednjeg valpovačkog grofa***. in Valpovo;
Paušak, M., Najman S. (2014): ***Odjeci prvog svjetskog rata u Valpovštini***. exhibition catalogue, in Valpovo;
Paušak, M. (2015): ***Tiskana ostavština valpovačkih vlastelina.*** in Valpovo;
Paušak, M. (2017): ***Vodič kroz zbirke***.
Paušak, M.: ***Fotografska baština iz ostavštine grofovske obitelji Normann u Muzeju Valpovštine***. Informatica Museologica 49/2018 (in the preparation of);
Stanić, D. (2005): ***Dvorac Prandau-Normann i nekadašnji vlastelinski kompleks u Valpovu.*** Hrvatska revija, no.1;
Stanić, D (2007): ***Barun Gustav Prandau (1807.-1885.) - ljubitelj glazbe i mecena.*** Valpovo Yearbook 2007;
Šćitaroci, M. and B. (1998): ***Dvorci i perivoji u Slavoniji.*** in Zagreb;
Šćitaroci, O. M. (2006): ***Dvorci i ljetnikovci***. International Scientific Conference (proceedings); in Varaždin;
Zaga, V. (1995): ***Idejni prijedlog korištenja dvorca Valpovo.*** MDC.

[15] See at the web site: http://arhiva.rera.hr/Portals/0/docs/eu-turizam/Strategij-Razvoja-Kulturnog-Turizma.pdf

Ivana Pavlić, Ph.D., Associate Professor
University of Dubrovnik,
Department of Economics and Business economics
Lapadska obala 7, 20000 Dubrovnik, Croatia
Phone: +385 20 445929
E-mail address: ipavlic@unidu.hr

Ana Portolan*, Ph.D., Assistant Professor
University of Dubrovnik,
Department of Economics and Business economics
Lapadska obala 7, 20000 Dubrovnik, Croatia
Phone: +385 20 445923
E-mail address: ana.portolan@unidu.hr

Barbara Puh, Ph.D., Assistant Professor
University of Dubrovnik,
Department of Economics and Business economics
Lapadska obala 7, 20000 Dubrovnik, Croatia
Phone: +385 20 445923
E-mail address: barbara.puh@unidu.hr

TOURISM SEASONALITY AND LEVEL OF IRRITATION IN A WORLD HERITAGE SITE: OLD CITY OF DUBROVNIK, CROATIA

SEZONALNOST TURIZMA I IRITATIVNOST U ZAŠTIĆENOJ SVJETSKOJ BAŠTINI: STARI GRAD DUBROVNIK, HRVATSKA

ABSTRACT

Tourism is global growing phenomenon whose rapid growth is expected to continue in the forthcoming period. Uncontrolled tourism development generates a pressure in all destinations and causes local residents' irritation toward travellers and tourism, especially in a world heritage sites (WHS). The main purpose of this paper was to research connection between the types of tourism season (high, low or out of the season) and level of irritation caused by travellers in a cultural urban and historical WHS with high seasonality which is considered to be included on the List of World Heritage in Danger due to the high pressure of travellers (tourists, visitors from the cruise ships and excursionists). To realize the purpose and the aim of this research Kruskal-Wallis and Mann-Whitney tests were applied. The findings indicate the existence of relation between different types of the season and levels of tourism irritation perceived by local resident, and implicate the necessity of tourism carrying capacity calculation and its use in a WHS, forming management plan of WHS as well as tourism destination management.

Key words: *Seasonality, Residents' Attitudes, World Heritage Site (WHS), Irritation.*

SAŽETAK

Turizam je globalno rastući fenomen čiji se rast očekuje i u narednom razdoblju. Nekontrolirani razvoj turizma stvara pritisak na turističke destinacije i izaziva iritiranost rezidenata prema *putnicima i turističkom razvoju, posebno u zaštićenoj svjetskoj baštini (WHS). Svrha rada je bila testirati povezanost različitih oblika turističke sezone (predsezone, sezone i izvan sezone) i stupnja iritativnosti lokalnog stanovništva u kulturno – povijesnom urbanom WHS-u kojem prijeti uključivanje na listu ugrožene svjetske baštine zbog velike koncentracije putnika (turista, posjetitelja s brodova na kružnim putovanjima i izletnika). Kako bi se ostvarili ciljevi istraživanja i svrha rada, primijenjeni su Kruskall-Wallis i Man-Whitney testovi. Rezultati istraživanja impliciraju povezanost različitog stupnja iritativnosti percipiranog od strane rezidenata i oblika turističke sezone, te ukazuju na nužnost izračunavanja nosivog kapaciteta, njegovu upotrebu u zaštićenoj svjetskoj baštini, izradu plana upravljanja i ustroj destinacijskog menadžmenta.*

Ključne riječi: *Sezonalnost, Stavovi rezidenata, Zaštićena kulturna svjetska baština, Iritativnost.*

1. Introduction

In tourism development local community has important role and takes a great part in creating tourist experience due to the high level of interaction and strong connection among travellers and local residents. Understanding that interaction and connection, as well as residents'attitudes towards tourism development, is extremely important and should not be neglected because resident-traveller balance is essential for sustainable long-term tourism development. The fact that large numbers of researchers investigate local residents' attitudes isn't a surprise. Also, understanding of positive and negative tourism impacts has crucial importance and should not be ignored because actions towards reducing residents'negative attitudes and their irritation by travellers need to be taken properly and on time.

The need of understanding resident-traveller relationship, tourism impacts and residents' attitudes towards the advantages and disadvantages of tourism is much higher in WHSs, especially in those that are considered to be included on the List of World Heritage in Dangercaused by the high pressure of travellers; nevertheless it is high, low or out of season.Buckley (2004) has concluded that WHS do receive large numbers of travellers and WH listings do seem to increase the proportion of international travellers to individual sites.A WHS is a place, such as a forest, mountain, monument or city, classified by United Nations Educational, Scientific and Cultural Organization (UNESCO) as a place of natural and/or cultural significance. World heritage may be classified into three categories: natural heritage, cultural heritage, and mixed heritage (Vareiro and Mendes, 2015). Many historical tourism destinations protected by UNESCO are located in urban and suburban areas usually quiet and peaceful residential settings during period out of season. During period of high season residents confront the quantity of travellers exceeds the destination infrastructure and resource capacities (Gursoy, Jurowski&Uysal, 2002).

This paper, by analysing community's attitudes toward positive and negative tourism impacts, examines level of irritation by travellers in different periods of the year (out of season, low season and high season) in urban, cultural andhistorical WHS (Old City of Dubrovnik-within the walls (OCD) that gained World Heritage Status on the 3rd session of the World Heritage Committee meeting in October 1979 in Egypt as a first cultural urban and architectural complex in Republic of Croatia(UNESCO, accessed July 2017)).OCD has been chosen for this research due to the facts it has been continuously inhabited from the ancient time, at the moment is considered to be included on the List of World Heritage in Danger due to the high number of travellers (tourists, visitors from the cruise ships and excursionists), has high level of seasonality with more than 65% of total overnightsin high season (June-September) and there are only few scientific papersthat have researched local residents' attitudes in Dubrovnik. This paper, therefore, has been focused on attitudes of residents in OCD towards economic, socio-cultural and environmental impacts of tourism and on level of their irritation by travellers. Ensuring proper and on-time actions towards reducing residents' negative attitudes and irritation by travellersis fundamental for sustainability, integrity and protection of the site as well as for future sustainable tourism development.

In this millennium there are only few studies that have been focused on urban cultural and historical WHS as tourism destinations (Haley, Snaith and Miller, 2005; Okech, 2010; Long, 2012; Turker, 2013; Cruz Vareiro, Remoaldo and CadimaRibeiro, 2013; Pavlić, Portolan and Puh, 2017). All researchers who have been focused on urban, cultural and historical WHS have used different intrinsic variables as influencing ones but there isn't any research that has investigated how some extrinsic variable influences on local residents' attitudes towards positive and negative tourism impacts. In Republic of Croatia there is only one research that has examined local residents' attitudes towards all positive and negative tourism impacts in a cultural, urban and historical WHS (Pavlić, Portolan and Puh, 2017). This paper will try to fulfil that gap.

The purpose of this paper was to researchresidents' attitudes towards positive and negative economic, socio-cultural and environmental tourism impactsin a cultural urban and historical WHS in order to determine whether type of the tourism season (high, low or out of the season) affects their level of irritation by travellers who visit that WHS.Jeon, Kang and Desmarais(2016) assume that seasonal phenomena in a tourism destination may be the key factor that influences residents in the perception of their quality of life, in particular, during the high season. It can also be hypothesised that there are differences between different types of the season and level of irritationby travellers perceived by local residents.

2. Theoretical Background

Since local residents are the main stakeholders of tourism development in a destination (Hanafiah, Jamaluddin and Zulkifly, 2013) and "happy" host is fundamental to the successful tourism development (Snaith&Haley, 1999)researching residents' attitudes towards tourism impacts is extremely important as well as estimating their level of irritation by tourism and travellers.As tourism involves at least two communities, guest and host, and locals are indispensable partner for the success of any tourism destination (Bramwell& Lane, 2000), understanding tourism and its seasonality impacts in different seasons on locals' and hosts' attitudes is crucial. In the last two decades researches towards residents' perceptions and attitudes have been intensified. It has become one of the most organised and researched area of tourism.

In measuring local residents' attitudes of positive and negative tourism impacts a number of influencing variables have been used.Mostly the literature hasbeen focused on finding and evaluating variables that may influence the way tourism impacts are perceived (Bimonte&Faralla, 2016).Considering Butlers's"TALC" model, Doxey's "Irridex" model and social exchangetheory (SET) described by Ap,Faulkner and Tideswell (1997) have identified two groups of variables influencing residents' attitude towards tourism impacts, namely extrinsic and intrinsic variables. According to their opinion extrinsic variables are connected to characteristics of the location with respect to its role as a tourist destination and intrinsic variables to characteristics of members of the host community. The major extrinsic variables related with local residents' attitudes found in the literature are degree or stage of the host destination's tourism development, type of tourists/travellers' characteristics and seasonality. Intrinsic variables that have been usually tested by numerous researchers are the distance that residents live from tourist zones, length of residence, involvement in tourism, economic and/or employment dependency of tourism and socio-demographic characteristics. Extrinsic variables are linked to Butler's "TALC" model (1980) with six phases of tourism destination life cycle (exploration, involvement, development, consolidation, stagnation and decline/rejuvenation) and Doxey'sirritation model (1975) that suggests that local residents, considering their attitudes towards tourism impacts, pass through different phases namely euphoria, apathy, irritation and antagonism. Oppositely, intrinsic variables are mostly linked to the social exchanged theory that quoted economic and/or employment dependency on tourism and involvement as main reasons for positive attitudes of local residents. Till 2014, when Vargas-Sanchez, Porras-Bueno and Plaza Mejia (2014) have included seasonality as extrinsic variable in their research, there was not any published article on the attitude of residents toward tourism impacts from an empirical perspective and in comparative way considering seasonality as variable that impacts on those attitudes.Previously, Faulkner and Tideswell (1977),Young, Thyne and Lawson (1999),Gu and Ryan (2008) and Hao, Long and Kleckley (2011) suggested and supported an idea that the influence of seasonality has to be taken into account when making comparisons between the results obtained from survey within the year.Vargas-Sanchez, Porras-Bueno and Plaza Mejia (2014) have, in their research, fulfilled hypothesis that more favourable local residents' attitudes of touristsare expected in low season than in high season, proving thereby the existence of connection between type of season and level of preference toward tourists. Analysing and measuring whether and which aspects of subjective well-being were affected by the tourist season, Bimonte and Faralla(2016) have concluded that perceived impact increases in tourism season.

Hall and Piggin (2001) reported that there has been an increase in visitor numbers after the site gained World Heritage Status and that congestion, crowding, and site degradation are problems for those sites due to more visitors and seasonal variation in traveller numbers. WHS are facing increasing travellers' pressure. World's population is continuously growing as well as interest in heritage tourism as a results of increased education and income, technological improvements and the growing awareness of the world (Timothy & Boyd, 2003); while at the same time the size of the World Heritage Sites remain unchanged (Li, Wu & Chai, 2008).Since it is recognised that there is conflict between heritage protection and tourism development, researches towards residents' attitudes in a WHS have been increased.Zamani-Farahani and Musa (2008) have tested relationship between involvement in tourism and support for tourism development in tourism destination that is not under the protection of UNESCO but Iran Cultural Heritage, Handicraft and Tourism Organisation (ICHHTO) and concluded that future tourism planning should consider the inclusion of local people. In a year after Nicholas, Thapa and Ko (2009) have estimated factors (community attachment, environmental attitudes and involvement in WHS) that influence local residents' support for the destination as a WHS, as well as support for sustainable tourism development. Ryan, Chaozhi and Zeng (2011) and Su and Wall (2014) have investigated tourism impacts on local residents' attitudes in WHS rural zone in China in connection with local residents' living place.

As well as in other tourism destination, in Word Heritage Sites tourism influenceson local residents economically, socio-culturally and environmentally. Those impacts could be either positive or negative. Therefore, considering local residents' perceptions and attitudes toward positive and negative tourism impacts, respectively for destinations under the UNESCOprotection, is necessary in determining level of their irritation by tourism and travellers. After Haley, Snaith and Miller (2005) who have examined residents' attitude toward social impacts of tourism in WHS and Okech (2010) who has investigated socio-cultural impacts of tourism in a WHS, Long (2012) is first researcher who has included all types of positive and negative tourism impacts in his investigation of residents' perceptions and support for tourism development in Ha Long Bay, the Vietnam's first WHS. In his analysis, where he has concluded that respondents viewed tourism positively and supported tourism development, he has used descriptive statistics. One year later Turker (2013) also included all types of tourism impacts in his research of the World Heritage City of Safranbolu in Turkey. By using ANOVA and t-test he found out that there are differences in perceived negative environmental and social tourism impactsbetween research made in 2006 and in 2011(in 2011 residents perceived more negative environmental and social impacts of tourism). Cruz Vareiro et al. (2013) have, by cluster analysis, investigated local residents'attitudes in Guimares in Portugal using intrinsic variables (benefits from tourism development and socio-demographic characteristics)as influencing factors.Vareiro and Mendes (2015) have researched local residents' perceived tourism impacts on the municipalities of Angra do Heroismo and Evora in Portugal using t-test.

Considering literature review,the main aim of this paper was to find out the existence of different level of local residents' irritation caused by travellers regarding various types of season.

3. Empirical Research

3.1. Research Area

The Republic of Croatia is located in south-eastern Europe and covers the area of 87.661 km^2. There are thousands of heritage places and many are yet to be discovered. At the time of writing this paper seven historical and one natural site are listed under the World Heritage List, while 17 more sites are tentatively listed. Dubrovnik is small city situated on the Croatian southern coast of the Adriatic Sea and is one of the most prominent Mediterranean destinations with 28.434 inhabitants (Croatian Bureau of Statistics, 2017). It highly depends on tourism with over 0,87 million tourist arrivals in 2016, over 0,88 million visitors from cruise ships and high number of excursionists, with a tendency of further growth. In total, over 187.000 tourists and over 126.000 visitors from cruise ships were in Dubrovnik in August 2016, eleven times more than people living there (Croatian Bureau of Statistics, 2015; Port of Dubrovnik, 2015; both accessed 21 December 2017). The number of excursionists visiting Dubrovnik is not included due to the data inexistencebut it should be emphasized that this number would increase total number of travellers arrivals and traveller/residents ratio.

OCD gained World Heritage Status on the 3rd session of the World Heritage Committee meeting in October 1979 in Egypt as a first cultural urban and architectural complex in Republic of Croatia(UNESCO, accessed July 2017). The area that gained World Heritage Status was extended in 1994 on 18th session of the Committee and included areas outside the city walls, namely the Pile medieval industrial suburb, the Lovrijenac Fortress located on a cliff, the Lazarets (built in the early 17th century to house potential plague-carriers from abroad), Kaše moles (built to protect the port against south-easterly gales), the Revelin Fortress and island of Lokrum (UNESCO, 2015, accessedJuly 2017). As part of Dubrovnik, it is a multiple-use protected area which extends 94 hectares with buffer zone that covers additional 54 ha. Currently, about 1.000 permanently inhabited residents live in OCD which is less than 4% of total population in Dubrovnik (internal data from Institute for Restoration of Dubrovnik, 2018). OCD is arguably Dubrovnik's most visited attraction with more than one million visits annually. Presence of high number of tourists, visitors from cruise ships and excursionists has strong impact on local residents and their attitudes toward tourism. Regardless of the above-mentioned importance of tourism to Dubrovnik,the fact that OCD is under UNESCO protection and knowledge about importance of residents' attitudes, lack of researches about local community attitudes toward tourism impacts in Dubrovnik and their irritation by travellers is evident.

3.2. Sample and Data Analysis

In order to determine the differences between local residents attitudes and level of their irritation caused by tourism in various type of season (high, low and out of season), empirical research was carried out using a sample survey taken from 376 convenience-chosen local residents in OCD. The research was carried out from May 1st 2015 to May 1st, 2016. In total, 208 questionnaires were administered personally to the respondents. The sample profile is summarized in section Findings and discussion. To realise the purpose of this research, different analytics tools, including methods of analysis and synthesis, methods of generalization and specialization and different statistical methods were used. Due to the, on the one hand small sample considering the number of respondents in three seasons (48 out of season, 59 high season and 101 low season) and on the other hand ordinal nature of the data, non-parametric techniques - Analysis of variance including Kruskal-Wallis test and Mann Whitney – post hoc test were applied.

A high structured questionnaire, to gain the above-mentioned aim, was used. The items were based on the review of literature. The first part of questionnaire which consists of items for measuring attitudes of residents towards positive and negative tourism impacts have been retrieved from different empirical studies (Chen & Chen 2010, Nicholas et al. 2009, Ko& Stewart 2002, Lee

2013). Considering the obtained literature and regarding the particularly circumstances of tourism development in OCD, this questionnaire includes 36 items due to exclusion of exceptional and redundant items. Local residents' attitudes were measured applying 5-point Likert scale ranging from extremely negative to extremely positive.These items were divided in two groups, namely positive (18 items – 8 economic, 7 socio-cultural and 3 environmental) and negative ones (18 items – 6 economic, 6 socio-cultural and 6 environmental items). For the purpose of the paper, this research was focused only to the 17 items related to the level of irritation. Since the phase of irritation is the stage in which local residents become concerned about tourism due to significant growth of arrivals and increasing competition and they start to think that tourism is responsible for everything bad that happens in the local community, in this analysis following items were included: Tourism has raised local products prices (i1), Tourism has increased residents' living costs (i2), Tourism has negatively affected local cultural identity (i3), Tourism has negatively affected local residents quality of life(i4), Tourism has increased crime rates (i5), Tourism has increased prostitution (i6), Tourism has increased vandalism (i7), Tourism has decreased local community safety (i8), Tourism has increased conflicts between residents and visitors (i9), Tourism causes more traffic problems (i10), Tourism causes overcrowding parking problems for residents (i11), Tourism has increased the level of sea pollution (i12), Tourism has increased the level of air pollution (i13), Tourism has increased litter in an area (i14), Because of tourism I don't prefer to visit OCD in high season (i15), Tourism causes overcrowding on the local beaches (i16), Tourism makes me fill nervous (i17). In order to test the reliability of items Cronbach alpha has been applied. This test has suggested deleting items i1, i2, i9, i12 and i13. After excluding these items from further analysis,Cronbach alpha showed the value of 0,783. Peterson (1994) suggested that the value of Cronbach's alpha above 0,6 is considered acceptably reliable.The same items were analysed in different type of season.The last part of questionnaire was focused on demographic variables (age, gender, level of education, occupation and monthly income) in order to create profile of survey respondents. All statistical analyses were processed with the statistical package SPSS version 21.0.

3.3. Findings and Discussion

The results of the descriptive statistics indicated respondents' profiles. Approximately 64.2% of the respondents were female and 35.8% were male. The age groups were represented as follows: 25.7% from 18-34, 50.8% from 35-49, 19.6% from 50-64, 3.9% from 65. In other words, 76.5% were young and middle-aged people (18 to 50 years old). The education structure showed that all respondents completed high school and higher education, indicating that a large proportion of the sample was well educated (44.6% have undergraduate and graduate education). 29.6% of residents worked in private sector. The majority of the respondents, 92.2%, had monthly incomes under 8.001 HRK (1€=0,13 HRK).The Table 1 shows the results obtained using Kruskal-Wallis test.

***Table 1** Correlation between level of irritation and type of season*

	Type of season	N	Mean Rank
Level of irritation	Out of season (January-March)	48	91,05
	Low season (April,May,October-December)	101	101,66
	High season (June-September)	59	121,78
	Total	208	
Test statistics			
	Chi-square	9,149	
	Df	2	
	Asymp. Sig. (p)	0,010	

Source: Authors research

The results indicate the existence of statistically difference between type of season and level of irritation (χ^2=9,149; p=0,010). According Mean Rank it can be concluded that the level of irritation is most expressed in the high season (121,78) and that local residents are least noticeable out of season (91,05).

Next stage of research included Mann-Whitney post hoc test to determine whether level of irritation is statistically significantly different between concrete types of season. Tables 2, 3 and 4 show the results of Man-Whitney test for all combination of level of irritation and type of season.

Table 2 *Correlation between level of irritation and type of season (out and low season)*

	Typeofseason	N	Mean Rank	Sum of Ranks
Level of irritation	Out of season (January-March)	48	69,59	3340,32
	Low season 1 (April,May, October-December)	101	77,57	7834,57
	Total	149		
Test Statistics				
	Mann-Whitney U	2164,500		
	Asymp. Sig. (2-tailed)	0,249		

Source: Authors research

Results of Table 2 indicate that there is no statistically significant difference between level of irritation in low and out of season. This is confirmed by value of p which is higher than 0,05 (0,249).

Table 3 *Correlation between level of irritation and type of season (high and low season)*

	Type of season	N	Mean Rank	Sum of Ranks
Level of irritation	High season (June-September)	59	90,94	5365,46
	Low season (April,May, October-December)	101	75,09	7584,09
	Total	160		
Test Statistics				
	Mann-Whitney U	2433,500		
	Asymp. Sig. (2-tailed)	0,019		

Source: Authors research

Results of Table 3indicate that there is statistically significant difference between level of irritation in high and low season.This is confirmed by value of p which is lower than 0,05 (0,019).

Table 4 *Correlation between level of irritation and type of season (out and high season)*

	Type of season	N	Mean Rank	Sum of Ranks
Level of irritation	Out of season (January-March)	48	45,96	2206,08
	High season (June-September)	59	61,33	3618,47
	Total	107		
Test Statistics				
	Mann-Whitney U	1030,000		
	Asymp. Sig. (2-tailed)	0,005		

Source: Authors research

Mann-Whitney value in table 4 shows the existence of statistically significant difference between level of irritation in high season and out of season. This is confirmed by value of p which is lower than 0,05 (0,005).

4. Conclusions and Implications

Understanding the interaction between travellers andlocal residentsis vital and should be deeply researcheddue to the fact that resident/traveller balance is essential for sustainable long-term tourism development.Therefore conducted pilot survey has tried to determine the differences between the level of irritation of local residents caused by travellers in different type of season (out of season, low season and high season) in OCD (WHS), since higher level of irritation can diminish the quality of travellers experience in destination.

The results obtained by Kruskal-Wallis test have shown the existence of statistically significant differences between level of irritation and types of season. In order to get a better insight of the results, Mann-Whitney test has been applied to test the existing differences between level of irritation and combination of various type of season. The results have shown that the highest difference in level of irritation exists between high and out of season, and that there is no statistically significant differences between level of irritation in low and out of season. This is in accordance with the fact that 60% of travellers visit OCD in high season which causes negative effects such as overcrowding that directly increases the level of local residents'irritation and also reduces quality of tourism experiences.Also, since results indicate certain level of irritation and even some elements of antagonism in high but also in low season it is necessary to calculate tourism carrying capacity to avoid conflicts between local residents and travellers.

This paper is not free of limitations. Convenience small sample has been used in order to test the level of irritation and type of season, so it is not possible to generalise the obtained results (they can be used only as indicative ones). Since this was a pilot research and the sample was not representative, further research should try to get representative sample of local residents to which parametric statistics can be applied.

REFERENCES

Bramwell, B., Lane, B. (2000): ***Tourism collaboration and partnerships. Politics, practice and sustainability***, Channel View Publications, Clevedon

Butler, R.W. (1980): ***The Concept of Tourist Area Life Cycle of Evolution: Implication for Management of Resources***, Canadian Geographer, Vol. 24, No. 1, pp. 5-12.

Bimonte, S., Faralla, V. (2016): ***Does Residents' Perceived Life Satisfaction Vary with Tourist Season? A Two-step Survey in a Mediterranean Destination***, Tourism Management, Vol. 55, pp. 199-208.

Buckley, R. (2004): ***The Effects of World Heritage Listing on Tourism to Australian National Parks***, Journal of Sustainable Tourism, Vol. 12, No. 1, pp. 70-84.

Chen, C.F., Chen, P.C (2010): ***Residents Attitudes toward Heritage Tourism Development***, Tourism Geographies, Vol.12, No .4, pp. 525-545.

Croatian Bureau of Statistics (2015): ***Tourism in Seaside Resorts and Municipalities***, www.dzs.hr (accessed 21 December 2017).

Cruz Vareiro, L., Remoaldo, P. C., CadimaRibeiro, J. (2013): ***Residents' Perceptions of Tourism Impacts in Guimarães (Portugal): A Cluster Analysis***, Current Issues in Tourism, Vol. 16, No. 6, pp. 535-551.

Doxey, G.V. (1975): ***A Causation Theory Of Visitor-Resident Irritants, Methodology and Research Inferences***, in: Sixth annual conference proceedings of the travel research association, San Diego, CA, Travel and Tourism Research Association, pp. 195-198.

Faulkner, B., Tideswell, C. (1997): ***A Framework For Monitoring Community Impacts of Tourism***, Journal of Sustainable Tourism, Vol. 5, No. 1, pp. 3-28.

Gu, H., Ryan, C. (2008): ***Place Attachment, Identity and Community Impacts of Tourism—the Case of a Beijing Hutong,*** Tourism Management, Vol. 29, No. 4, pp. 637-647.

Gursoy, D.J., Jurowski, C., Uysal, M. (2002): ***Resident Attitudes: A Structural Modeling Approach***, Annals of Tourism Research, Vol. 29, No. 1, pp. 79-105.

Haley, A.J., Snaith, T., Miller, G. (2005): ***The Social Impacts of Tourism A Case Study of Bath, UK***, Annals of Tourism Research, Vol. 32, No. 3, pp. 647-668

Hall, C.M., Piggin, R. (2001): ***Tourism and World Heritage in OECD Countries***, Tourism Recreation Research, Vol. 26, No. 1, pp. 103-105.

Hanafiah, M.H., Jamaluddin, M.R., Zulkifly, M.I. (2013): ***Community Attitude and Support towards Tourism Development in Tioman Island, Malaysia***, Procedia- Social and Behaviour Sciences, Vol. 105, pp. 792-800.

Hao, H., Long, P., Kleckley, J. (2011):***Factors Predicting Homeowners' attitudes toward TourismA Case of a Coastal Resort Community***, Journal of Travel Research, Vol. 50, No. 6, pp. 627-640

Institute for Restoration of Dubrovnik (internal data 2018)

Jeon, M., Kang, M., Desmarais, E. (2016): ***Residents' Perceived Quality of Life in a Cultural-Heritage Tourism Destination***, Applied Research Quality Life, Vol. 11, pp. 105-123.

Ko, D.W, Stewart, W.P. (2002): ***A Structural Equation Model of Residents' Attitudes for Tourism Development***, Tourism Management, Vol. 23, No.5, pp. 521-530

Lee, T.H. (2013): ***Influence Analysis of Community Resident Support for Sustainable Tourism Development***, Tourism Management, Vol. 34, No. 1, pp. 37-46.

Li, M.; Wu, B., Cai, L. (2008): ***Tourism Development of World Heritage Sites in China: A Geographic Perspective***, Tourism Management, Vol. 29, No. 2, pp. 308-319.

Long, P.H. (2012): ***Tourism Impacts and Support for Tourism Development in Ha Long Bay, Vietnam: An Examination of Residents' Perceptions***, Asian Social Science, Vol. 8, No. 8, pp. 28-39.

Nicholas, L.N., Thapa, B. &Ko, Y.J. (2009): ***Residents' Perspectives of a World Heritage Site: The Piton Management Area, St. Lucia***, Annals of Tourism Research, Vol. 36, No. 3, 390-412.

Okech, R.N. (2010): ***Socio-cultural Impacts of Tourism on World Heritage Sites: Communities' Perspectives of Lamu(Kenya) and Zanzibar Islands***, Asia Pacific Journal of Tourism Research, Vol. 15, No. 3, pp. 339-351.

Pavlić, I., Portolan, A., Puh, B. (2017):***(Un)supported Current Tourism Development in UNESCO Protected Site: The case of Old City of Dubrovnik***, Economies, Vol. 5, No. 9, pp. 1-13.

Peterson, R.A. (1994): ***A meta-analysis of Cronbach's coefficient alpha***, Journal of Consumer Research, Vol. 21, No. 2, pp. 381-392.

Port of Dubrovnik. Available online: http://www.portdubrovnik.hr/girica1.php (accessed 21 December 2017).

Ryan, C., Chaozhi, Z., Zeng, D. (2011): ***The Impacts of Tourism at a UNESCO Heritage Site in China - A Need for a Meta-Narrative? The Case of KaipingDiaolou***, Journal of Sustainable Tourism, Vol 19, No. 6, pp. 747-765.

Snaith, T., Haley, A. (1999): ***Residents' Opinions of Tourism Development in the Historical City Of York***, Tourism Management, Vol. 20, No. 5, pp. 595-603

Su, M.M., Wall, G. (2014): ***Community Participation in Tourism at a World Heritage Site: Mutianyu Great Wall, Beijing, China***, International Journal of Tourism Research, Vol. 16, No. 2, pp. 146-156.

Timothy, D.J., Boyd, S.W. (2003): ***Heritage Tourism***, Pearson Education, England

Turker,N. (2013): ***Host Community Perceptions Of Tourism Impacts: A Case Study On The World Heritage City Of Safranbolu, Turkey***, Revista de cercetaresiinterventiesociala, Vol. 43, pp. 115-141

UNESCO (2015): ***Report on the UNESCO-ICOMOS Reactive Mission to Old City of Dubrovnik, Croatia from 27 October to 1 November 2015***, whc.unesco.org/document/141053 (accessed 10 July 2017).

Vargas-Sanchez, A., Porras-Bueno, N., Plaza-Mejia, M.A. (2014): ***Residents' Attitude to Tourism and Seasonality***, Journal of Travel Research, Vol. 53, No. 5, pp. 581-596.

Vereiro, L., Mendes, R. (2015): ***Residents' Perspectives on Tourism Impacts of Portuguese World Heritage Historic Centres: Angra do Heroismo and Evora***, Tourism and Management Studies, Vol. 11, No. 1, pp. 44-51.

Young, T., Thyne, M., Lawson, R. (1999): ***Comparative Study of Tourism Perceptions***, Annals of Tourism Research, Vol. 26, No. 2, pp. 442-445.

Zamani-Farahani, H., Musa, G. (2008): ***Residents' Attitudes and Perception towards Tourism Development: A Case Study of Masooleh, Iran***, Tourism Management, Vol. 29, No. 6, pp. 1233-1236.

Mirela Tvrdak, bacc.oec.
College of Tourism and IT Management in Virovitica
Matije Gupca 78, 33000 Virovitica
Phone: 097 725 5464
E-mail adress: mirela.tvrdak@gmail.com

Kristina Jurić, bacc.oec.
College of Tourism and IT Management in Virovitica
Matije Gupca 78, 33000 Virovitica
Phone: 095 813 9206
E-mail adress: jurickristina875@gmail.com

Dejan Tubić, PhD, lecturer
Head of tourism department
College of Tourism and IT Management in Virovitica
Matije Gupca 78, 33000 Virovitica
GSM: 098 955 6906
Phone: +385 33 492 261 Fax: +385 33 721 037
E-mail adress: dejan.tubic@vsmti.hr

IMPROVING THE CULTURAL AND HISTORICAL HERITAGE OF EASTERN CROATIA THROUGH THE MODEL OF ECO-AGROTOURISM

UNAPRJEĐIVANJE KULTURNO-POVIJESNOG NASLJEĐA ISTOČNE HRVATSKE KROZ MODEL EKOAGROTURIZMA

ABSTRACT

Development of tourism in the 20th century is changing its course from Jadran region to continental areas in the Republic of Croatia. Speaking of continental, eastern parts of Croatia, it is possible to conclude that it is the least developed region in this country. Great damage has been made in the population structure and development processes by the influence of a war, which has left great consequences in regional, as in demographical development. Empirical part of the paper is based on the identification of causes and consequences of slower development of the estern region of Croatia, and also on historical heritage in the tourism industry. The main objective of a paper is to define historical haritage of eastern Croatia, to perceive its influence during the making of a demmand, and to see in which way will agrotourism objects promote destination heritage. Cultural and historical attractions frequently have the effect on choosing the destination to travel to, as its elements of a supply. One of the first motives for traveling, is tendency to discover authentic heritage, which destinations use while creating promotion and reputation at the market. Concern areas differ. During a visit to tourism destination in its natural surroundings, tourists can see, feel, and fully comprehend regional, national, past and present cultural creativity, beauty of national dances, cultural and art wealth in museums, as in historical cities and its structures. Despite its poor development, eastern region of Croatia is full of cultural and historic heritage which not only has static elements, but also has its traditions and a way of living. These elements can be used while creating the brand of a destination. In order to follow contemporary trends, sustainable development should be applied to already mentioned elements, with an accent on ecological tourism. Despite all, the need has been shown for a faster regional development in order *to stabilize migration of inhabitants of eastern Croatia, as to improve the effect of historical heritage in agrotourism, and sustainable effect of ecological tourism.*

Key words: *cultural and historic haritage, tourism, eastern Croatia, tourist supply.*

SAŽETAK

Razvoj turizma u 20. stoljeću mijenja smjer širenja sa Jadranske regije ka kontinentalnom dijelu Hrvatske. Govoreći o Istočnoj Hrvatskoj, može se reći da je to najslabije razvijena hrvatska regija. Ratna zbivanja su ostavila duboke tragove u strukturi naseljenosti i razvojnim procesima, s dalekosežnim posljedicama u regionalnome, ali i u demografskome razvoju. Empirijski dio rada usmjeren je na identifikaciju uzroka i posljedica zaostajanja istočne Hrvatske u regionalnom razvoju zemlje, ali i sagledavanju povijesnog nasljeđa u turističkom razvoju. Cilj rada je definirati povijesno nasljeđe istočne Hrvatske te proučiti kakav utjecaj ima na razvoj turizma prilikom kreiranja ponude i na koji način će agroturistički objekti promicati nasljeđe destinacije. Elementi ponude koji često utječu na izbor destinacije putovanja jesu i kulturno-povijesne atrakcije. Težnja za otkrivanjem autentičnog nasljeđa uvijek je na popisu motiva za putovanje te ih je bitno koristiti u promociji i kreiranju prestiža destinacije na tržištu. Područja interesa prilično su različita. Posjetom turističke destinacije u njezinu prirodnom okruženju mogu se vidjeti, osjetiti i u potpunosti spoznati regionalna i nacionalna prošla i sadašnja kulturna kreativnost, raskoš folklora, izobilje kulturnog i umjetničkog bogatstva u muzejima, povijesnim gradovima i građevinama. Istočna Hrvatska usprkos slabom razvoju obiluje bogatstvom kulturno-povijesnog nasljeđa koje uz statične elemente ima i svoje običaje i način života putem kojeg se destinacija može brendirati. Kako bi se pratili suvremeni trendovi turizma uz spomenute elemente treba se uključiti održivi razvoj planiranja s naglaskom na ekoturizam. No, usprkos svemu tome, ističe se potreba za bržim regionalnim razvojem kako bi se stabilizirala naseljenost u tom dijelu zemlje te unaprijedilo povijesno nasljeđe uz agroturističke objekte i sagledavanja povijesnog nasljeđa kroz ekoturizam.

Ključne riječi: *kulturno-povijesno nasljeđe, turizam, istočna Hrvatska, turistička ponuda.*

1. Introduction

Specific forms of tourism or selective kinds of tourism appeared in the early nineties and continued to appear until the middle of the year two thousand but in the recent years they have been increasingly used. Their presence in this period manifested itself not only in the scientific literature, but also in the specialized courses on topic of selective tourism in some universities. It was a period of conflict between respectful tourist experts about the correct ways of its usage (Luković, 2008.). Studying literature sources (books, magazines) of many authors (Kušen, 2006.; Ružić, 2009.; Rabotić, 2013.; Bartoluci and associates, 2016.) who study specific types of tourism, it was established that rural tourism defined based on the aforementioned criteria, includes a number of forms such as: agrotourism, residential tourism, local history, sports - recreational tourism, adventure tourism, health tourism, educational tourism, nautical continental tourism, transit tourism, camping tourism, cultural tourism, eco-tourism, religious tourism, hunting, fishing tourism and food and wine tourism. In these forms of tourism there are included all those types and activities that can contribute to environmental protection, responsible and appropriate behavior, humanization, revitalization and breeding of the area, as well as those species that do not negatively impact the natural and cultural environment of specific destinations. Because of these characteristics, a large number of mixed types of tourism are included as well, that also counts those species that do not affect agglomeration and an established whereby the environment remains original. Also, selective forms of tourism want to eliminate the negative impacts of mass tourism, so it is therefore elected eco-agrotourism who wants to reduce the negative consequences of the non-controlled development to the mentioned destination. Also, this form is taken due to the characteristics of the current condition that wouldn't result in shock to the destination but in continuous growth and improvement of the eastern Croatia and its cultural and historical heritage (Jandrešić, 2001.). For the purposes of this work ecotourism and agrotourism are of great importance, so the focus will be directed more toward these forms of tourism. The aim is to define the historical heritage of eastern Croatia and examine its impact on the tourism development when creating the supply but also to define the ways of promoting the destination heritage by agrotourism facilities. The purpose of the work is based on the importance of cultural heritage as a key element for the development of the eastern Croatia through selective form of ecoagrotourism. While studying the available literature sources (Kušen, 2006.; Jelinčić, 2007.; Ružić, 2009.; Tubić and associates, 2013.; Rabotić, 2013.; Grgić and associates, 2015.), it was noticeable that there are many definitions of agrotourism but in this paper a separate definition of agrotourism by Grgić and associates (2015.), which states that agrotourism is a part of rural tourism which is connected to agriculture and covers recreation on agricultural holdings, education, daily visits or farmer markets, accommodation and nutrition will be highlighted. Also, studying available literature of secondary sources (books, journals, corpuses) by numerous Croatian authors (Klarić and Gatti, 2006.; Pelikan Matečić and Pelikan, 2008.; Ružić, 2009.; Ćurić, 2010.; Ham, 2012.) it can be noted that there are numerous definitions of ecotourism. This paper will highlight the definition by (Ružić, 2009.) who states that ecotourism represents the type of travel that aims to protect the world of nature and support the well-being of a culture that inhabits that world; ecotourism is ethics, attitude, behavior; a movement that has a significant and positive impact on the joint development and the future of the environment and tourism.

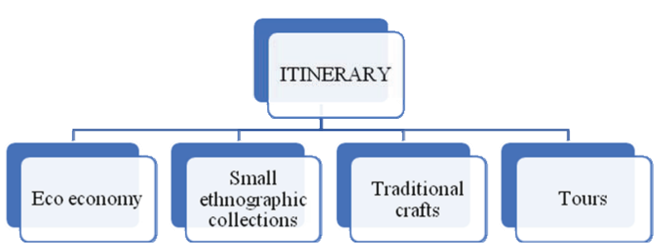
2. Causes and consequences of Eastern Croatia fall behind in regional development of Croatia

Croatian Homeland War is one of the main reasons why Eastern Croatia fell behind. Except from the achievement of state program as general goal, the specific goal of connencting parts of Eastern Croatia is seen as controlling valuable economic resources of one of the most promising parts of the Republic of Croatia. With occupation of parts of territory in Croatian Podunavlje, war consequences grew while having extended influence. That is why terms and conditions are just created gradually since the beginning of peaceful reintegration. Great war consequences are still seen in population stucture and processes of development, which have far-reaching influence in regional as in demographic development of observed scope (Matišić and Pejnović, 2016.). In the world the best known part of Croatia is Jadran, which has lead in presentation of Croatian tourist offer. Although tourist supply of Slavonija region is indeed various and recognizable it is not comparable with the elevation of Jadran region. Other forms of tourism have been neglected, due to the domination of aquatic-resort type of tourism. This statement is verified by the statistic data which show that 97% of accommodation capacity is located in marimite counties which accomplish 96% of tourism movement in Croatia. Despite of the movement at the Jadran region, display of regional itinerary is developing if the entire tourist activity, even the one in noncommercial forms of accommodation, is considered. Noncommercial forms include houses and apartments for vacation and friends and family visits. It can also be concluded that there is no record, nor assesment of tourist movements created in one day travels without overnight stays. According to this norm, continental area holds 1/3 of overall commercial and noncommercial state capacities.

3. Model of eco-agritourism improvement

Agritourism is one of the subspieces of rural tourism, so it became main potential in development of continential regions of Republic of Croatia. It is founded on natural resources, as it encourages harmony with nature while resisting the disruption of natural balance. In these aspects it is connected with ecotourism. Furthermore, agritourism encourages learning about traditions, customs troughout tasting rooms, tours, outings spots, and small etnographical collections. According to OECD, agritourism is defined as tourist activity which is ogranized by the agricultural producers on their own rural estate and it is based on the landscape, tradition, and family which make complete and competitive tourist product (Hajdaš and Štefanec, 2006.). Scope, such as, is suitable for those tourists who are looking for authentic as nostalgic past. By enabling outdoor activities in natural enviroment, as by offering relaxation in peaceful surroundings far away from urban crowds and obligations, such form of tourism is presenting and connecting human with a nature (Demonja and Ružić, 2010.). Motives for visiting smaller areas are peaceful and natural environment, visitng friends and family, getting to know surrounding area, way of living and tradition of agritouristic estate, as the location. Therefore, agritourists prefere homemade, traditional and ecologically produced products for use at agritouristic estate (Pančić and Konbol, 1995.). Throughout the main itineraries (find out more at picture 1.) Eastern Croatia shall promote eco-business, small etnographical collections, tradition and tour crafts, which will be offered trough eco-agritourism (Ružić and Demonja, 2010.). Eco-estates are one of the most recent trends noticed by the tourist performance. Eco-estate take action in organic-biological agricultural production. This kind of production, as traditional one, is not profitable, nor it is used for competition with conventionall production at the maket. Therefore, organic-biological agricultral production is profitable only if it is directed to the more demanding consumers, such as is conscious new tourist, whom will be given food from organic-biological produced groceries, which they can buy and bring back home to present them to theirs family members and to show the procedures of organic-biological production (Ružić and Demonja, 2010.). Small etnographical collections offer private collections of etnographical items, mostly with simbolic value, which hold identity of local community, encourage respect of local cultural heritage and they offer informational function about culture of wider area. Such smaller collections are usually collected in non methodical way and such collections must be processed, protected, documented, caracterised, registerd, described with picture edittion, and be described by a smaller text (Ružić and Demonja, 2010.). Traditional crafts belong under the last mentioned itinerar. Foundation of each traditional craft is skill and talent applied while producing raw materials as provision of services. It is practiced in various ways, as so, product of such kind belongs to traditional kind of products. In modern days, traditional production of raw materials as provision of service, intorduces tourists foundimental ways of some item production. Traditional crafts are closely connected with creative workshops which are used in educational way where tourists can learn crafts and procedures (Ružić and Demonja, 2010.). Agriculture and manufacturing are main industries of slavonian estates, while such services are main components of eco-agritourism. Family traditional crafts, small and medium sized enterprises, as few lagrer traditional enterprises, are responsible for most of food production of Eastern Croatia. Along with family traditional crafts and producers, small retail chains also dominate in this region area. Eco-agritourism emphasizes local producers of all kinds of services, including them in tourism offer, as the way of its development.

***Picture 1** Eco-agritourism itinerary*



Source: creation of authors

4. Reasons lagging cultural and historical heritage of eastern Croatian

Cultural and historical heritage and other tourist attractions in Eastern Croatia are more like a resource rather than a tourist product. Development tourism plans of eastern Croatian counties represent a challenge that will be implemented in the future to show whether tourism remains just an idea or a reality in the area of eastern Croatia. In year 2000. Slavonia has achieved 0.5% of the total tourist traffic, making it the weakest area which is visited in the country. In the last decade it has witnessed a steady decline in tourist traffic, which is only a third of pre-war. In the following period, it is expected to stop the downward trend and the beginning of recovery of Slavonia. The potential of tourism development in Eastern Croatia make (see Table 1): the cities of ancient traditions such as Cibalae (Vinkovci), Mursa (Osijek), Marsonija (Slavonski Brod), Vukovar as a memorial complex and a symbol of war suffering, Vučedol with 200 archaeological sites, international folklore events (Vinkovci autumn, Đakovo embroidery), Slavonian castles and manors, Kopački rit nature park, Bizovačke spa, Lipik, Cavalry Academy Đakovo, distinctive cuisine (Kutjevo and Ilok wine, sausage, plum), etc..Listed capabilities make development potential of selective forms of tourism such as cultural, recreational, hunting, gastronomy, rural and memorial tourism. The entire cultural - historical heritage is mostly a resource, which has not yet become a tourist product, and thus can be said that it's lagging in some ways. This is due to a multitude of restrictions that slow tourism development. It can be said that they are a consequence of the war, disrupted economic flows, underdeveloped transport infrastructure, lack of skilled personnel and lack of tourism promotion. Representation of tourism and hospitality in total revenue of Slavonia is low (<2%), although it can be assumed that, as in other parts of the Croatia, this figure is underestimated because of incomplete coverage. The cultural heritage of many cities in Eastern Croatia lined with neoclassical and Art Nouveau monuments to modern architecture. Every city and every place has its own personality which was given by a certain historical period. Therefore, with a rich collection of cultural and historical goods is everyone's memory weaved. Such potential so far represents the underutilized potential of the place and the whole state level. Cultural and historical heritage of the Eastern Croatia make numerous historic property, churches, monasteries, castles and manors, and monuments that date back from different periods of history.

Table 1 *The potential of tourism development in Eastern Croatia*

RESOURCES DEVELOPMENT OF TOURISM IN EASTERN CROATIA	
• Cities of ancient traditions	• The distinctive cuisine
• International folklore events	• The memorial complex, castles and manors, and nature parks

Source: Lončar, T. (2003.): Turizam kao faktor razvoja Istočne Hrvatske – stvarnost ili san?; URL: http://www.geografija.hr/hrvatska/turizam-kao-faktor-razvoja-istocne-hrvatske-stvarnost-ili-san/, (accessed 20 February 2018)

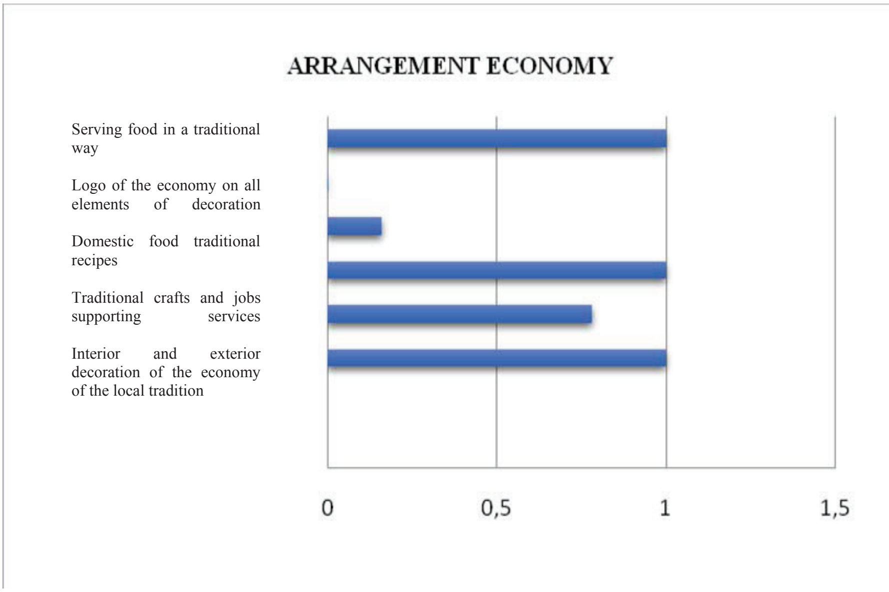
5. Empirical research at the example of Baranja village Karanac restaurant

To analyze the theme "Enhancing the cultural - historical heritage of the Eastern Croatian model through eco-agrotourism" there will be studied several eco-agritourism farms in the village Karanac. In continuation of this work will be apparent from the beauty, traditions and specialties that village Karanac offers and cooperation with other eco-agrotouristic farms. Ethno at the restaurant is a family restaurant located in the ethno village Karanac, in the heart of farm at the foot of the wine-growing Banovo hill. In addition to a restaurant where they revived an old and almost forgotten recipes, revived the tradition of building clay bread ovens and regulation of ethno streets of old crafts. For example, preparing dishes of snails in sauce nettle and fried acacia flowers, bean stew in a clay pot belong to the classic Baranja specialties such as fish stew, shepherd's stew, carp, catfish stew with homemade noodles and many others. In addition, guests are served with homemade bread, which is baked daily in the clay bread ovens over an open fire. Beside the two rooms where guests are served in winter (capacity of 60 and 70 persons) they have a large courtyard which in summer turns into a terrace where guests can easily enjoy. The restaurant is tailored to the youngest guests and for them in the yard it has been made a playground and set up interesting content in order to thus ensure an unforgettable party. The restaurant is also pet-friendly and will certainly accommodate your pet. With processed theoretical part the work includes empirical research that has been conducted due to the lack of official data on cultural - historical heritage of the eastern Croatian through the proposed model of eco-agro-tourism and therefore it was necessary to conduct a survey on the state, perspectives and developing eco-agro-tourism in this area. Empirical research comprises several agro-eco farms and was conducted by telephone formulated by the questionnaire. The purpose and objective of the questionnaire is to complete understanding of the cultural - historical heritage of the eastern Croatian model through eco-agritourism farms in Baranja. The survey questionnaire consisted of six questions related to the offer of local cuisine as the main focus of the economy, the most important elements of regulation of the economy, cooperation with other eco-agrotouristic farms and the way advertising economy most.

5.1. Research results

Before you begin working out the research results, it is important to emphasize that this is a pilot study that will be supplemented and further detailed in future conferences. Economies are mostly registered as OPG and, while one is registered as a craft. By studying their offer, mainly focused on food and accommodation. Furthermore, speaking about cooperation with local farms similar activities mostly cooperate for the purposes of the food that is needed to prepare meals and in some situations when you do not have enough accommodation facilities with the closest economy. A detailed analysis of the collected data (Figure 1) shows that every economy is highlighted and given the top rating the importance of local gastronomy as chief of its economy. As for the ways in which the economy is the most advertised and represents the market, stand out, with the highest grade, the recommendations of loyal visitors and through past experiences, followed and advertising via the Internet. Some economies have indicated that they are a good way of advertising shown and brochures. Economies are most focused on internal and external decoration, then to the diet and at the end stand supporting facilities. Several economies have pointed to as a major segment in which they want to stand out is the tradition and culture, others claim that the food served in a traditional way; on which they base their offer and others are even stressed that they want to be like Tuscany as a blend of modern and traditional tourism.

Chart 1 *Structure of the economy segment of the distinction between farms*



Source: author's research

After the research is conducted, it can be concluded that the economies have great potential for further business and for the further development of eco-agro-tourism in eastern Croatia. We liked the desire to revive the past in the streets of forgotten time, which are tailored to the youngest guests but are also pet friendly. It tends to revive and nurture tradition and originality. One of the interesting things that can be highlighted is the fact that tourists, participate in home-based work, organize their celebrations or business organizations, and hosts fully meet their visitors. They also offer tasting of Baranja wines, traditional cuisine, fjaker, horseback riding, familiarizing with traditional tools and crafts and visiting domestic animals and orchards. From all the above it can be said that economies emphasize quality, gastronomy and tradition as the main focus of their economy.

6. Conclusion

By studying numerous Croatian and foreign authors, there is an insight into agrotourism and ecotourism, so it can be concluded that there are a number of different definitions. Work consists of two parts - theoretical and empirical. In the theoretical part there are the reasons and consequences of the decline of eastern Croatia in the regional development of Croatia, a model for the improvement of eco-agrotourism and the reasons behind the lack of cultural and historical heritage of eastern Croatia. In the empirical part a survey was conducted on the situation, perspectives and the development of eco-agrotourism in the mentioned area. Agrotourism is based on natural resources and it adds to ecotourism because it promotes harmony with nature and does not disturb the natural balance. Agrotourism encourages familiarity with tradition, customs through tastings, tours, excursion sites and small ethno-graphic collections. Also, agrotourists prefer home-made products, traditional and ecologically-produced products that promote ecotourism and ecologically cultivated products offered on farms. In the first chapter, the causes and consequences of the fall of the eastern Croatian into the regional development of Croatia can be concluded that the biggest cause of lagging was the Croatian Homeland War and that the war events left deep traces in the population structure and developmental processes with far-reaching consequences. In the second chapter, the eco-agrotourism improvement model suggests that basic tourism activity is based on landscape, tradition and family, from which it can be said that a complete but competitive tourist product is being created. In the third chapter, the reasons for the lack of cultural and historical heritage of eastern Croatia can be highlighted by the decline in tourist traffic, war damage, cultural and historical heritage, promotion of tourist offer, numerous restrictions; slowing down the tourist development. It can be concluded that the balance between the economies of the economy and the fulfillment of different tourist needs, ie the aims of the various participants in the tourism market, will create a stable and long-term sustainable eco-agrotouristic development. It is very important that the economies emphasize local gastronomy, product quality and the tradition of their region through tourism. Most importantly, it should be noted that the economies have recognized the importance of pooling with local economies as this will only result in success.

REFERENCES

Bartoluci M., Hendija Z., Petračić M. (2016.): ***Pretpostavke održivog razvoja ruralnog turizma u kontinentalnoj Hrvatskoj.*** Acta Economica Et Turistica, Vol.1 No.2

Ćurić K. (2010.): ***Promišljanje razvoja ekoturizma i ekološke poljoprivrede. Praktični menadžment: stručni časopis za teoriju i praksu menadžmenta,*** Vol. 1,m No. 1., Visoka škola za menadžment u turizmu i informatici u Virovitici

Demonja, D. i Ružić, P. (2010.): ***Ruralni turizam u Hrvatskoj***, Zagreb, Meridijani

Hajdaš Dončić, S. i Štefanec, P. (2006.): ***Agroturizam***, Zagreb, Matis d.o.o.

Ham, M. (2012.): ***Ekološka svjesnost potrošača kao čimbenik daljnjeg razvitka marketinga***, doktorska disertacija, Osijek: Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku

Jandrešić, V. (2001.): ***Turizam u interdisciplinarnoj teoriji i primjeri-Zbornik istraživanja***, Zagreb, Školska knjiga

Jelinčić, D. A. (2007.): **Agroturizam u europskom kontekstu**. Studia ethnologica Croatica, Vol.19 No.1, str. 269-289

Kušen, E. (2006): ***Ruralni turizam,*** Zagreb, Institut za turizam

Klarić Z., Gatti P. (2006.): ***Ekoturizam***, Čorak S., Mikačić V. (ur): Hrvatski turizam plavo, bijelo, zeleno, Zagreb: Institut za turizam

Ružić, P. (2009.): ***Ruralni turizam***, Pula: Institut za poljoprivredu i turizam Poreč

Luković T. (2008.): ***Selektivni turizam, hir ili znanstveno-istraživačka potreba***, Acta Turistica Nova, Vol.2 No.2

Lončar, T. (2003.): ***Turizam kao faktor razvoja Istočne Hrvatske – stvarnost ili san?***; URL: http://www.geografija.hr/hrvatska/turizam-kao-faktor-razvoja-istocne-hrvatske-stvarnost-ili-san/, (accessed 20 February 2018)

Luković T. (2008.): ***Selektivni turizam, hir ili znanstveno – istraživačka potreba***. Sveučilište u Dubrovniku, Acta turistica nova, Vol.2 No.1

Matišić, M. i Pejnović D. (2016.): ***Uzroci i posljedice zaostajanja Istočne Hrvatske u regionalnom razvoju Hrvatske***, Hrvatski geografski glasnik, Vol.77 No.2, str. 101-140

Pančić Kombol (1995.): ***Selektivni oblici turističke ponude u razvojnoj strategiji***, Veleučilište u Rijeci ,Vol.1 No.1

Pelikan Matečić N., Pelikan Z. (2008.): ***Ekološka poljoprivreda i ekoturizam-koliko su ozbiljne namjere Hrvatske***. Agronomski glasnik: Glasilo Hrvatskog agronomskog društva, Vol. 70 No. 2, Zagreb

Rabotic B. (2013.): ***Selektivni oblici turizma***. Visoka turistička škola strukovnih studija, Beograd

Tubić, D., Bosnić, I., Blažević, Z. (2013.): ***Analiza poslovanja agroturizma na području Slavonije i Baranje***. Ekomoski vijesnik, Vol. XXVI, NO. 2

Istočna Hrvatska: neobrađeno bogatstvo; URL: http://www.jatrgovac.com/2012/07/istocna-hrvatska-neobradeno-bogatstvo/ (accessed 18 February 2018)

2

Novi trendovi u razvoju gospodarstva

New trends in economic development

Ivan Ambroš, PhD, mag. ing. comp.
Director, Centar kompetencija d.o.o., Vinkovci
Phone: +385 32 540 685
E-mail address: ambros@cekom.hr

Mr.sc. Franjo Ambroš, dipl. ing.
Director, Geoprem d.o.o., Osijek
Phone: +385 31 250 900
E-mail address: franjo.ambros@geoprem.hr

INSTITUTIONAL AND BUSINESS CHALLENGES IN DIGITAL ERA – POLICY REMARKS FOR EASTERN CROATIA

INSTITUCIONALNI I POSLOVNI IZAZOVI DIGITALNOG DOBA – PREPORUKE ZA ISTOČNU HRVATSKU

ABSTRACT

In the area of 12500 km^2 of Eastern Croatia (Region) live approximately 806.000 inhabitants. Similar to some other countries (especially in CEE) in European Union, this area is experiencing significant demographic problems which could determinate economic and social future of the Region. Economic potential of area, as well as digital technology application and 4.0 industries in different economic fields and sectors is imperative for stabilization and further development. 4.0 industries provide new opportunities for "industrial renewal and renaissance" (SWD, 2014) and through smart specialization strategy could be presented as new regional dimension of industrial policy. "Regional" and "industrial" because of similarity which is evidential on regional base but also because many opportunities for Region, for example 1) exploitation of agricultural potential and placement of final products through new ICT-solutions, 2) the scope of touristic services enriched with preservation of cultural heritage and 3) the role of University of J. J. Strossmayer in Osijek. Only collaboration of industry and science in all development phases of products and services can lead to significant (and sustainable) economic growth. So, the main research questions addressed in this paper are: 1) are the main stakeholders and business sectors prepare for institutional, organizational and structural change in short time (until 2020) and 2) what is necessary for new policy framework and implementation of 4.0 industries in long time (from 2021)?

Key words: *digital economy, 4.0 industry, region in depression, use of natural resources, human resources, digital infrastructure, collaboration of industry and science.*

SAŽETAK

Na području Istočne Hrvatske površine 12500 km^2 živi otprilike 806.000 stanovnika. Slično kao i u drugim europskim zemljama (posebno zemljama srednjoistočne Europe), na ovom području sve su izraženiji demografski problem koji bi mogli odrediti ekonomsku i socijalnu budućnost regije. Gospodarski potencijali ovog područja, kao i primjena industrije 4.0 u različitim gospodarskim područjima i sektorima su obvezni preduvjeti za stabilizaciju i budući razvoj. Industrije 4.0 pružaju nove mogućnosti za "industrijsku obnovu i renesansu" (URL; SWD, 2014) i kroz strategiju pametne

specijalizacije mogle bi biti predstavljene kao nova dimenzija industrijske politike na regionalnoj razini.
"Regionalna" i "industrijska" zbog sličnosti na regionalnoj razini, kao i prilika za regiju, npr. 1) iskorištavanje poljoprivrednog potencijala za plasman finalnih proizvoda putem novih IKT rješenja, 2) turističke usluge obogaćene kulturnom baštinom i 3) uloga Sveučilišta J.J. Strossmayera u Osijeku. Samo suradnja gospodarstva i znanosti u svim fazama razvoja proizvoda i usluga može osigurati značajni (održivi) gospodarski rast. Stoga će istraživanje biti usmjereno da odgovori na pitanja: 1) jesu li glavni dionici i poslovni sektor spremni za institucionalne, organizacijske i strukturne promjene u kratkom roku (do 2020.) i 2) što je sve potrebno za provedbu industrije 4.0 dugoročno (nakon 2021.).

Ključne riječi: *digitalna ekonomija, industrija 4.0., nerazvijene regije, korištenje prirodnih potencijala, ljudski potencijali, digitalna infrastruktura, suradnja gospodarstva i znanosti.*

1. Introduction

Scientific and technological knowledge influence on different parts of human activity. Period of doubling the knowledge of mankind is increasingly diminishing (Ivanović, 2009). In such environment, it is necessary to constantly review existing practices and adjust institutional and business models towards new needs and opportunities. Harmonizing all processes in society is a new challenge that needs to be addressed urgently. Knowledge and its technological application is a civilization achievement that has to be under continuous auditing. Today, the development of humanity is based on the logic of Industry 3.0 with IT application in the function of automation of production processes and focused on profit - so-called "Ego-System". Industry 4.0 is characterized by "smart factories" that, with the digitization of all business processes, continuously work on improving quality, increasing efficiency and sustainable use of natural resources. Industry 4.0 is focused not only on profits, but also on the harmonization of various business activities and environmental protection - "Eco-System".
Industry 4.0 brings a wide range of changes to manufacturing processes, outcomes and business models. Increased flexibility in production will result in variety of different products to be produced in the same production facility. Prototypes or new products can be produced quickly without complicated retooling or the setup of new production lines.
Estimations are that data-driven supply chains can speed up the manufacturing process by an estimated 120% in terms of time needed to deliver orders and by 70% in time to get products to market.
Integrating product development with digital and physical production will result in large improvements in product quality and significantly reduced error rates. By linking intelligent machines with data-rich components and workers, innovation cycles can be shortened, productivity raised and quality improved. (URL 1.1).

2. Industrial era history

First industrial revolution is characterized by discovery of the weaving machine. That gave important push to hemp and flax production. Large number of weaver processing plants is proof of industrial growth in Eastern Croatia; in the mid 19th century industrial plants of textile industry were established (silage plants, processing of wool and hemp in Osijek and Vukovar and surrounding areas), as well as wood industry (Osijek, Belišće, Slavonski Brod) (Ivanović et al.)
Second industrial revolution is characterized by massive use of machines constructed with a steam engine or exploiting hydropower. It had positive impact on development of milling industry,

electricity production, railroad construction and use of steam engines in threshing machines. This is the time when application of new communication technologies begins. Telegraph gets the competition in the phone. Public telephone system was established in Osijek before Zagreb. Since the end of the 19th century, in Eastern Croatia cities Osijek and Slavonski Brod, smaller industrial plants have been established for production of brick, food, wood, metal and chemical products. After WW2 these productions grew into large factories with developed technologies and significant business results on the Yugoslav and European markets (Ivanović, Vidaković, 2016a).
Third industrial revolution began in the 1970's with microelectronics and massive use of computers and computer technology. In Eastern Croatia big cities (Osijek, Slavonski Brod, Vukovar and Vinkovci) and large factories (Kombinat Borovo, IPK Osijek, PIK Belje, "Đuro Đaković", PPK Županja, PIK Vinkovci, Kombinat Belišće, "Elektroslavonija", Saponia, PPK "Đuro Salaj" and PIK Đakovo) are establishing computing centres to improve production and raise the technological level of business (Ivanović et al., 2015) (Ivanović, Habulek, 2016b).

3. Natural resources

Eastern Croatia consists of five counties: Brod-Posavina (BPŽ), Osijek-Baranja (OBŽ), Požega-Slavonia (PSŽ), Virovitica-Podravina (VPP) and Vukovar-Srijem (VSŽ). It covers an area of about 12,500 km². There are about 806,000 inhabitants (CBS, 2011) in 998 settlements. The area is organized in 127 territorial units, of which 22 cities and 105 municipalities (Figure 3.1).

***Figure 3.1** Eastern Croatia – demographic data and organizational structure*

Stanovnici i naselja na području pet županija Slavonije i Baranje (popis 2011.)

Županija	Površina km²	Broj stanovnika	Stanovnika na km²	Broj gradova	Broj općina	Broj naselja
Brodsko-posavska	2.030	158.575	78,1	2	26	185
Osječko-baranjska	4.155	305.032	73,4	7	35	263
Požeško-slavonska	1.823	78.034	42,8	5	5	277
Virovitičko-podravska	2.024	84.836	41,9	3	13	188
Vukovarsko-srijemska	2.454	179.521	73,2	5	26	85
Regija SliB	12.486	805.998	64,6	22	105	998
Republika Hrvatska	56.594	4.284.889	75,7	127	429	6.756
% SliB u RH	22,1	18,8	85,3	17,3	24,5	14,8

Izvor: DZS

Source: DZS

Eastern Croatia is located at the intersection of the traffic corridors. Traces of the oldest civilizations and cultures have been found in this area. Main natural resources of Eastern Croatia are agricultural land (41% of Croatia), forest land (18% of Croatia) and hydrocarbons and mineral raw materials.
Smart Specialisation Strategy of the Republic of Croatia 2016.-2020. recognised those two priority sectors within Priority Thematic Area Food and Bio economy with a focus on food-processing and wood-processing industry (URL 3.1)
These potentials can be either in the function of boosting economic activity or, through rent potential, be a source of funding for the needs of residents in the area.

3.1 Agricultural land, forests and forest land

Considering potential of agricultural production, it is expected that the digital age will bring significant technological and organizational changes. In some agricultural operations, technological changes are already evident. Use of navigation devices and various sensors is now a reality. Web services are being used for searching for market niche and distribution channels.

Other important natural resource of Eastern Croatia are forests. 18% of forest land in Eastern Croatia does not show real importance of this resource. Quality of the wood of Eastern Croatia, especially world famous Slavonian oak, has been highly valued by the market. Manufacturing capacities are currently focused on exporting semi-finished or raw materials instead of organizing full finalization of the high value added finished product.

3.2 Hydrocarbons and mineral raw materials

Compensation according to the Regulation on fees for exploration and exploitation of hydrocarbons (Narodne novine, 2014a) amounts to 10% and it is shared by the state (50%), the county (20%) and the local government unit (30%). These percentages are applied to the market value of the raw material. Problem is data on exploited quantities are often unavailable or difficult to verify.
By mineral raw materials it is meant natural resources that can be used as the original product or can be finalized in construction or other product. Decree on concessions for exploitation of mineral raw materials (Narodne novine, 2014b) stipulates that the compensation amounts to 3% of the market value of the raw material. The remuneration belongs to the state (50%), the county (20%) and the local government units (30%). Quantities of mineral raw materials exploitation are controlled annually but lack the knowledge of the market value of a particular mineral raw material.
Locations of oil and gas fields and types, quantities and locations of mineral raw materials are visible in spatial plans of each county.

4. Human resources

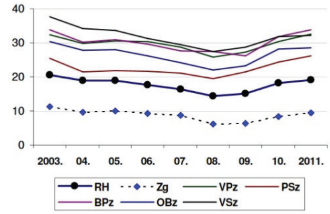
Eastern Croatia was confronted with depopulation in various historical periods. On the other side, geo-strategic importance of this area was recognised for the traffic position during the Roman Empire, the cultivation of fertile land during the Austro-Hungarian Empire, and more recently after the end of WW2 due to the potential in crop growing (Vresk, 1988). Exploitation of the forest, especially of Slavonian oak and beech initiated the development of the wood industry. This caused migration of the population from the village to the cities as industrial centres. More recently, due to the potential of the University Josip Juraj Strossmayer in Osijek, the students' migrations are emphasized – students from various parts of Eastern Croatia are coming to Osijek.
These were historical circumstances in which Eastern Croatia was an immigration and emigration area. In last two decades, Eastern Croatia is becoming predominantly emigration area. According to the Population Census 2001/2011 in the area of Eastern Croatia there are 86,000 inhabitants less (DSZ 2001 and 2011). This trend from Croatia's accession to the European Union, in 2013, is increasing on an annual level.
Although the potential for food production in this area exceeds the needs, there is a lack of processing capacities, so unemployment is higher than the average of the Republic of Croatia (Table 4.1).

__Table 4.1__ Unemployment rate in five counties of Eastern Croatia comparing to Zagreb (2003-2011)

Stopa registrirane nezaposlenosti u RH, 5 županija SliB i Gradu Zagrebu - stanje 31. ožujka

Žup.	2003.	2004.	2005.	2006	2007.	2008.	2009.	2010.	2011.
VPž	32,4	29,8	30,5	30,3	28,7	25,8	27,3	30,4	32,5
PSž	25,5	21,4	21,8	21,7	21,1	19,4	21,5	24,4	26,2
BPž	33,9	30,1	30,9	29,6	27,6	27,4	26,2	31,9	33,8
OBž	30,4	27,8	28,0	26,1	24,2	22,0	23,3	28,2	28,5
VSž	37,7	34,2	33,6	31,3	29,4	27,5	28,7	31,8	32,2
RH	20,6	18,9	19,0	17,7	16,3	14,3	151	182	191
Zg	11,2	9,7	10,0	9,2	8,8	6,2	6,3	8,4	9,4

Izvor: DSZ



Source. DZS

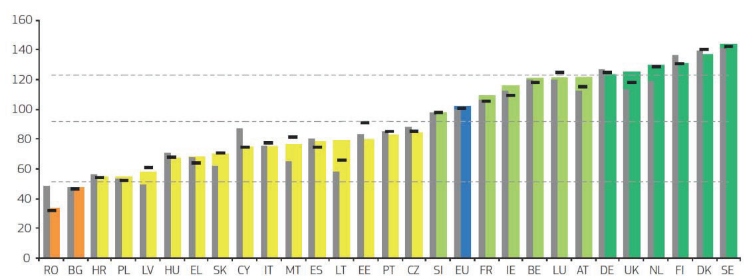
__Table 4.2__ Average number of unemployed persons in the five counties of Eastern Croatia (2004-2017)

P	4	5	6	7	8	9	0	1	2	3	4	5	6	7
Ž	6	2	4	0	9	3	[illegible]	5	46	66	13	8	7	5
Ž	6	8	2	7	9	0	[illegible]	6	5	5	2	8	5	3
Ž	76	11	39	18	96	30	7	06	16	46	34	30	02	7
Ž	81	20	76	06	33	61	2	63	21	50	29	42	72	73
Ž	83	10	77	90	80	69	8	77	55	16	86	94	06	14
B	02	21	08	11	07	13	4	60	23	53	34	32	63	12

Source: Croatian Employment Service (Croatia EU accession 1.7. 2013.)

5. Innovation potential of Croatia

__Figure 5.1__ Performance of EU Member States Innovation System



Source: URL5.1

According to European Innovation scoreboard 2017, Croatia belongs to group Moderate innovators (marked yellow) which is below Innovation leaders and Strong innovators with only Bulgaria and Romania having worse ranking in Performance of innovation systems. Croatia is ranked 26th out of 28 EU Member states.

Moderate Innovators include EU Member states with performance between 50% and 90% of EU average.

While the performance for the EU between 2010 and 2016 improved by 2.0 percentage points, in the same period performance for Croatia declined -1.4%

Low performance of Croatia Innovation system demonstrates necessity for mobilizing all existing resources towards smart and sustainable growth.

6. Digital economy infrastructure

Concept of infrastructure in the narrow sense is often used for various technical resources, while in broader sense it means the organization of a segment or the whole society (Ambroš et al., 2016). Economics of Planning in Economy 3.0 is based on short-term investments. Cost of system maintenance often reduces cost-effectiveness. Disruption of infrastructure with such a time of duplication of knowledge often requires the application of technological solutions that improve the system, but also have its limits. The focus of this paper is on key infrastructure of the digital age, which is the electronic communication infrastructure. Its role is crucial for connecting all segments of society. In Economy 4.0, clear boundaries between economy, entertainment, public services, networking of ecological monitoring sensors are deleted. Today's copper-based electronic communications infrastructure has its limits in transmission speeds. Transmission rates (bits / sec) are key factor for the economy of the digital society. Complexity of Industry 4.0 is evident in dynamic infrastructure modelling. Knowledge of infrastructure is corporate knowledge with inadequate transparency of the impact on society and the environment. The result is an untimely adaptation of the infrastructure for new needs. Institutional multidisciplinary education on all levels of education would have the human resources preconditions for more versatile and more economical use of infrastructure and space (Ambroš, 2015).

Internet access in Croatia is ensured through two networks, fixed and mobile. Regarding speeds, mobile network enables higher speeds, but focuses on client and urban concentration. Fixed network speed limit is due to copper conductors, distance of the client and the simultaneous number of users going through the same cable.

Internet speed as a measure of cost-effectiveness can be seen from the following data: The one-second slowdown on Amazon's web store generates an annual loss of $ 1,6 billion, while Google reports that a 0.4-second slowdown means a daily loss of 8 million search engine activations and about 16 million ads not being viewed (URL 6.1).

In Croatia, the fiscalization project has pointed to the problem of speed and also to unavailability of the data transfer service in some areas. What speed means can show example from one company. For regular business tasks, the package of 20/20 Mbit/s was satisfactory throughout the working hours. The problem arose early in the day when employees began "logging" on the network. Most of the SWs installed immediately connect to your service and start upgrading and validating licenses. With this speed, the procedure lasted for about 30 minutes. With a 50/50 Mbit sec pack this time was reduced to 10 minutes.

The EU estimates that 10% increase in the number of broadband subscribers (limit speeds of 25 Mbit/s) brings a 1.38% increase in gross domestic product.

Value of investment in digital infrastructure that would reach every household in Eastern Croatia is estimated at HRK 2,1 billion.

7. Rent as a source of income and motivation

Croatia has large percentage of private property on real estate. The percentage of private property on agricultural land in the Republic of Croatia is about 67%, while for the area of Eastern Croatia it is 69%. Residential real estate is 92.3% privately owned (URL 7.1) which puts Croatia on high third place amongst EU countries.

Value of agricultural land in the Republic of Croatia is estimated at $ 10 billion (HAZU 2016). Proportional to the surface, value of agricultural land in the area of Eastern Croatia amounts to $ 4.1 billion. Detailed valuation of agricultural land for this area has not been done.

Value of forest and forest land in Croatia (HAZU, 2016) is $ 6.6 billion, in proportion to the area this value would be $ 1.2 billion for the area of Eastern Croatia.

Collection and valuation of mining rents from the exploitation of mineral raw materials and hydrocarbons still have to be done.
Billing for the right of servitude to use real estate by infrastructure operators is only in the initial stage. Estimation of landowners' entitlement to the right of servitude only for electronic communications infrastructure amounts to about 100 million HRK per year. This huge investment potential is still not recognised.
These are just some remarks on the possible use of the rent for the development of Eastern Croatia. Particularly alarming is the outflow of capital through cheap agricultural products with low added value, timber exports as raw materials and excessive collection of various types of taxes that do not leave sufficient financial resources for new investments and needed motivation for entrepreneurs and employees in this area.

8. University Josip Juraj Strossmayer Osijek

University of Josip Juraj Strossmayer consists of 11 faculties, 5 departments, 1 art academy, 8 constituents and 3 companies with an enrolment quota of students of the first year in 2017/2018 of 3889 students, of which 45% in STEM area (URL 8.1). There are about 20,000 students and about 1,000 teachers and associates, or 73% of the total number of employees (URL 8.2).
In Industry 4.0 science and the economy are closely integrated with community needs and sustainable development by focusing on nature conservation and the use of renewable energy sources. This puts task to oldest faculty of Eastern Croatia, the Faculty of Agriculture Osijek (1960) and the Faculty of Food Technology (1976): to develop not only production of raw materials but also final products with high added value. Reduced production costs and constant product and manufacturing control will be possible by using networked sensors, navigational or other digital devices and robotised facilities for small-scale manufacturers or sensor-driven agricultural machines.
Digital era will also have a significant impact on the university community. Networking of people and access to information requires the development of a scientific concept in which it can valorise the role of scientists: 1) in technology transfer and 2) as an innovator who offers new products for the market. In Industry 4.0, there will be products in virtual reality area. The Digital era will promote various e-services which academic community will: 1) consume and 2) be a provider of services. Two-way communication will speed up the exchange of ideas and contribute to faster implementation of business activities.
It needs to be said that University Josip Juraj Strossmayer, like other universities, develops autonomously, with their own strategy and goals (URL 8.2).

9. Proposals for priority development of Eastern Croatia

Discussion on the priorities of this area at Industry 4.0 begins with the Digital Agenda for Europe (DEA) document (URL 9.1), which represents one of seven strategic EU initiatives (innovation, youth mobility, DEA, resource efficiency, industrialization in the globalization era, skills and the fight against poverty), and continues with the document Strategy e-Hrvatska 2020 (URL 9.2) which promotes the following goals:
1. Enhanced business productivity of public administration by using ICT and new skills within public administration and towards users;
2. Improved quality of life through the use of e-services of public administration;
3. Enhanced linkage between citizens and state administration through ICT;
4. Providing a secure environment for providing public administration e-services;
5. Increased competitiveness of the economy by using e-services of public administration;
6. Opening space ICT-based innovation in public administration through co-operation between public administration, scientific and business entities and

7. Inclusion in the European Digital Administrative Space.
Strategy promotes further development of services: e-government, e-health, e-land management, e-justice, e-culture, e-tourism, e-school, e-commerce, e-inclusion.
In the Industrial Strategy of the Republic of Croatia 2014-2020 (URL 9.3), as potential initiator of development for the area of Eastern Croatia, there are two branches: manufacturing and furniture production. Both of these industries, although based on the products and raw materials of this area, without the support and systematic assistance of the state, cannot yield significant results in the short term. Prices of agricultural products have not changed for about twenty years, although the input costs have increased several times. The raw material for the production of quality furniture has become increasingly inaccessible to local furniture manufacturers, and this branch for further development needs help of the state.
Regardless of the weaknesses noted, the potential of these industries could be put into operation with the active measures of the Government of the Republic of Croatia. By investing in processing capacities, agricultural products would no longer come to the market as semi-finished products but would provide new value with their additional processing. Furniture production with new models of association, specialization and securing local raw wood material for local production capacities could also become the driving force for development of sector.
Considering these documents, it follows that in the planning of development we must take care of all segments of the area: natural and human resources and harmonious and reliable services at public interest for companies and citizens.

10. Conclusion

What every society needs for a balanced and harmonized development are trained and motivated experts, networking infrastructure for people and the placement of their ideas and products on the market, constant sources of funds that ensure continuous investment and formal scientific and educational institutions.
The inventory of the area points to the historically sinusoidal form of development of Eastern Croatia. What is missing in this area is the modern electronic communications infrastructure. Impact on networking people and the promotion of various services points to the revolutionary potential of this infrastructure. Investing in electronic communications infrastructure in Croatia is left to the market. Investing in this area is a small gain for investors due to the continuing need for service expansion, and the high cumulative profit and development of the area where the service is available in full scope.
In conclusion, two priority tasks were identified: 1) provide funds and 2) build modern fiber optic infrastructure. In addition to potential funds from EU funds, rent can be a source of income in the area of Eastern Croatia, primarily from agricultural land, exploitation of forests, hydrocarbons and mineral raw materials. Particularly emphasized rent from the use of land for the construction of infrastructure (right of servitude). Legal base for charging this rent is in our legislation. Charging right of servitude is carried out at each construction works, while for the electronic communication infrastructure in the process of regulating property rights relations with all landowners who have not previously been regulated.
The development of new digital services based on such available infrastructure is imperative. To do that it is necessary to mobilize all the professional potentials in the region - from small private software companies through business system experts and associates, students and professors from all faculties of Josip Juraj Strossmayer University of Osijek.
Digital Revolution represents the evolutionary sequence and the opportunity to mobilize local resources for the development of a local area for a smart, sustainable and inclusive economic growth in Eastern Croatia. A key precondition for mobilizing local resources is functional and fiscal decentralization. Decentralization of the management of strategic local resources in such a way that

the greatest benefit of local resources must stay within local community. Therefore, local revenues from local resources could be used for funding development needs of Eastern Croatia, with a priority of electronic communication infrastructure.

REFERENCES

Ambroš,F., Ivanović, M.,Mesarić,D. (2015): Construction of infrastructure and models of scientific research work in the case of the project "Slavonian network", rad u zborniku : Gospodarstvo istočne Hrvatske – vizija i razvoj, 4. međunarodni znanstveni simpozij, Ekonomski fakultet Osijek, Osijek, 2015.

Ambroš, F., Bajt, J., Rulj, A., Skelin, M.(2016): Specijal Legal Regimes Pertaining to Infrastructure – the Task of Geodetic Profession to Croate a Technical Base for the Application of Legal Regulations Pertaining to Infrastructure, International Symposium on Engineering Geodesy SIG 2016, Varaždin, 2016

Hrvatska akademija znanosti i umjetnosti (2016): Hrvatska prirodna bogatstva i kulturna dobra – zaštita i odgovorni razvoj, Zagreb, 2016

Ivanović, M. (2009.) Tri eseja o znanosti,ISBN 978-953-6032-55-6226, Elektrotehnički fakultet Osijek

Ivanović, M.; Varga, D. Škaro, M. (2015) Processing Factories of Industrial Hemp in Slavonia and Baranja, 4th International scientific conference „Economy of Easter Croatia", Osijek, May, 23-25, 2015; ISBN 978-953-253-106-0, Proceedings, pp 145 – 157

Ivanović,M. Vidaković, S. (2016.a), History of Implemented Entrepreneurial Activities in Slavonia and Baranja from 1969th to 1989th, 5th International scientific conference „Economy of Easter Croatia", Osijek; June, 1-3, 2016; ISSN 1848-9559, Proceedings, pp 911 – 921

Ivanović, M.;Hubalek, I. (2016b), Kombinat „Borovo" na listi 200 najvećih poduzeća u Jugoslaviji u razdoblju od 1969. do 1989. godine, BATA – BOROVO (1931.-2016.) – povijesno nasljeđe i prepektive, Vukovar, 9—10. Lipnja 2016; Zbornik radova, Institut ivo Pilar, str. 66-76

Vresk, M. (1988): Neka obilježja urbanizacije Istočne Hrvatske, Geografski glasnik, br 50, Zagreb, 1988.

Narodne novine (2014a): Uredba o naknadi za istraživanje i eksploataciju ugljikovodika NN, broj37, Zagreb, 2014

Narodne novine (2014b): Uredba o naknadi za koncesiju za eksploataciju mineralnih sirovina, NN, broj 31, Zagreb, 2014

URL 1.1 : http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/568337/EPRS_BRI(2015)568337_EN.pdf

URL 3.1: Smart specialisation of the Republic of Croatia 2016.-2020. http://s3platform.jrc.ec.europa.eu/documents/20182/222782/strategy_EN.pdf/e0e7a3d7-a3b9-4240-a651-a3f6bfaaf10e

URL 5.1: https://www.rvo.nl/sites/default/files/2017/06/European_Innovation_Scoreboard_2017.pdf

URL 6.1 : https://www.tportal.hr/biznis/clanak/skriveni-troskovi-sporog-interneta-i-kako-ih-izbjeci-20180319

URL 7.1: https://www.jutarnji.hr/vijesti/hrvatska/novi-izvjestaj-hrvati-treci-u-europi-cak-921-posto-gradana-ima-svoju-kucu-ili-stan/1062812/

URL8.1 : http://www.unios.hr/wp-content/uploads/2017/05/UPISNE-KVOTE-1718.pdf

URL8.2: https://www.unios.hr/wp-content/uploads/2015/07/SJJS_Strategija_Sveucilista_HR.pdf

URL9.1: COM (2010) : *A Digital Agenda for Europe*, European Commission, COM(2010) 245 final/2, 2010.

URL 9.2 https://uprava.gov.hr/UserDocsImages//Istaknute%20teme/e-Hrvatska//Strategija_e-Hrvatska_2020.pdf

URL9.3: https://www.mingo.hr/page/kategorija/industrijska-strategija-republike-hrvatske-2014-2020

URL SWD (2014): http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2014/swd_2014_0015_en.pdf

Branimir Dukić, full professor
Ekonomski fakutet u Osijeku
Osijek, Trg Ljudevita Gaja 7
Phone: 091 22 44 028
E-mail address: bdukic@efos.hr

Stojanka Dukić, assistant professor
duxMission d.o.o. Osijek
Osijek, Dalmatinska 21
Phone: 098 169 84 55 Fax: 031 30 30 90
E-mail address: dux-mission@os.t-com.hr

Sanja Dugandžić, assistant
Ekonomski fakutet u Osijeku
Osijek, Trg Ljudevita Gaja 7
Phone: 091 22 44 032
E-mail address: sanja.dugandzic@efos.hr

KNOWLEDGE MANAGEMENT IN THE FUNCTION OF ENSURING COMPETITIVENESS OF SLAVONIAN ECONOMY

MENADŽMENT ZNANJA U FUNKCIJI OSIGURANJA KONKURETNOSTI GOSPODARSTVA SLAVONIJE

ABSTRACT

The classical mass production of producers from the Republic of Croatia can hardly cope with products coming from or from countries where labor prices are significantly lower or from countries where labor is replaced by automated and robotized production systems. Domestic mass production products can be competitive on the foreign market only if they are of adequate quality, competitive prices and can be produced in the required quantities. When it comes to appearance on the foreign market, the quantities are usually a limiting factor because the industrial potentials of the producers from the Republic of Croatia are small and insufficient for a more serious appearance on the world market. When it comes to Slavonia, which connected a good part of its mass industrial production with the processing of agricultural products of mass production, then the situation is significantly harder because the domestic raw material base for such production is significantly more expensive than the one that can be obtained on the foreign market. Therefore, Slavonia should not seek its development perspective within mass production but through high-quality small-scale production or production for a well-known consumer, in line with the new digital era. The competitiveness of this type of production comes from the added value produced by the built-in knowledge of the product as well as knowledge about the customer. Accordingly, the aim of the research is to define the conceptual model of the knowledge base that would be used by the economy of Slavonia in the function of implementing the transformation from Industry 1.0 in Industry 4.0. Such a model integrates different types of information and knowledge that will help business entities, both in finding consumers and experts required to realize production on the principles of Industry 4.0. The primary research method used is the method of descriptive logical modelling.

Keywords:*knowledge, knowledge management, Industry 4.0, customer relationship management, economy, competitiveness.*

SAŽETAK

Klasična se masovne industrijska proizvodnja proizvođača iz Republike Hrvatske teško može nositi s proizvodima koji dolaze ili iz zemlja gdje je cijena rada značajno niža ili pak iz zemalja gdje je radna snaga supstituirana s automatiziranim i robotiziranim sustavima proizvodnje. Domaći proizvodi masovne proizvodnje mogu biti konkurentni na inozemnom tržištu samo ako su odgovarajuće kvalitete, konkurentni cijenom i moguće ih je proizvesti u potrebnim količinama. Kada je u pitanju nastup na inozemnom tržištu obično su količine ograničavajući čimbenik jer su industrijski potencijali proizvođača iz Republike Hrvatske mali i nedostatni za ozbiljniji nastup na svjetskom tržištu. Kada je u pitanju Slavonija, koja je dobar dio svoje masovne industrijske proizvodnje vezala uz preradu poljoprivrednih proizvoda masovne poljoprivredne proizvodnje, tada je situacija i značajno teža jer je domaća sirovinska osnovica za takvu proizvodnju značajno skuplja od one koja se može nabaviti na inozemnom tržištu. Stoga Slavonija svoje razvojne perspektive ne bi trebala tražiti u okvirima masovne proizvodnje već kroz visokokvalitetnu maloserijsku proizvodnju ili proizvodnju za poznatog potrošača što je u skladu s propozicijama novog digitalnog doba. Konkurentnost ovakve proizvodnje proizlazi iz dodane vrijednosti koju producira kako ugrađeno znanje u proizvod, tako i znanje o potrošaču. Prema tome cilj je istraživanja definirati konceptualni model baze znanja kojim bi se koristilo gospodarstvo Slavonije u funkciji realizacije transformacije industrije 1.0 u industriju 4.0. Takav model integrira različite tipove informacija i znanja koja će pomoći poslovnim subjektima, kako pri pronalaženju potrošača, tako i stručnjaka potrebnih za realizaciju proizvodnje na načelima industrije 4.0. Primarno korištena istraživačka metoda je metoda deskriptivnog logičkog modeliranja.

Ključne riječi: *znanje, menadžment znanja, industrija 4.0, upravljanje odnosima s potrošačima, gospodarstvo, konkurentnost.*

1. Introduction

In today's time, the value of an economy is valued in the world market.Namely, thanks to the potentials of information and communication technology, there has been a time of globalization where practically the borders cease to be market barriers, and once protected local producers have the competition made of bidders from all over the world.In this regard, it is particularly difficult for those producers who operate in small markets and their business is focused on mass production.The reason for this primary is the volume of production. Specifically, mass production producers base their competitiveness on large-scale production where fixed costs are allocated to a large number of products.If such a large-scale production is still supported by the use of cheap labor or by automated or robotized production processes and low loads in terms of fiscal and parafiscal charges then local large-scale production has no way to handle without administrative barriers with such competition.The described situation is characteristic for both the economy of the Republic of Croatia and the economy of Eastern Croatia.In addition to all the previously mentioned, the economy of Eastern Croatia is burdened with the legacy of the past.It must not be left out of the sight that eastern Croatia was devastated by the war in the nineties of the last century and that it had undergone a tough transition and that the consequences left local negative macroeconomic effects as well as global.It is therefore not surprising that the economy of eastern Croatia is in an extremely difficult, almost hopeless situation.

Without radical changes, primarily in the domain of strategic reorientation of the economy of Eastern Croatia, there is a little chance for independent recovery and the exit from the current difficult economic situation of the Eastern Croatia economy.Strategic reorientation of the economy of eastern Croatia primarily implies the transition of the economy of eastern Croatia from the management principles characteristic for the industrial age on the principles of management that are characteristic for the new age that can be colloquially called both the information age and the digital age, the electronic age and the hyper age, as well as the age of knowledge.What distinguishes the industrial age from the new age is precisely the relationship to the way of achieving competitiveness.While in the industrial age competitiveness is built on the physical characteristics, in the new age the competitiveness is built on the mental capabilities of the workforce.Therefore, the economy of eastern Croatia can not and should not be built on mass production, but on technologically advanced high-quality creative and innovative products, intended for small groups of consumers or individual consumers.Such products contain a large amount of knowledge, whether it is the knowledge of the experts who have developed the product or the knowledge of the customer or the customers for whom the product is being developed.

For small and exhausted entrepreneurs from eastern Croatia, this transition from industrial mode of operation to a contemporary mode of operation, which implies high technology engagement, is extremely demanding and expensive, so every local community's help will be welcomed.One of the ways in which the community can help is to create an entrepreneurial cluster that will ensure a co-ordinated and assisted local producer's presence on the global market.Within the framework of this cluster, the key role should be the information system, that is the knowledge management system, whose primary function is to collect information on the experts and their knowledge needed in the realization of the business, and the knowledge about the consumers to whom the products are intended.This research was focused precisely on defining the knowledge management model for experts and consumers for the entrepreneurial cluster of the economy of eastern Croatia.

2. Research methodology

Competitiveness in the new age is realized with base on information superiority and superiority in the available creative and innovative knowledge.On the one hand, business entities need creative and innovative technological knowledge, or knowledge of experts who will be involved in creating or innovating products, and on the other hand knowledge of the needs and behaviors of consumers to whom the products are intended.Large business entities from developed markets in modern business conditions build complex computing systems whose primary function is to collect, create, process, store and distribute information, i.e. knowledge, both technological and about consumers and their behavior. It is a tendency to know who, what, when, where, how and why, because precisely on the basis of answers to these issues combined with creativity and innovation, the market achieves the superiority required to survive in globalized, dynamic and turbulent business conditions.However, the systems mentioned are expensive, and the power to aggregate data as raw materials for information production and knowledge is limited by extremely small market players such as business entities from Eastern Croatia.In order to reach the required data more effectively and more comprehensively, both those related to technological superiority and those related to market supremacy, it is necessary to link eastern Croatia's businesses into a cluster of information and knowledge that would function as a non-profit outsourced system organized by the state administration and local government.Such a system needs to be structured and elaborated in its processes, but its essential feature is a well-structured database, a knowledge base that encompasses key information and knowledge that all business entities from Eastern Croatia can use to create competitive advantage in the global marketplace.Primarily, such a system makes sense for businesses focusing on new forms of industrial production, of which high quality creative and/or innovative low-end products, or individualized and personalized products for the well-known customer that are in a technological, design and ergonomic sense ahead of its time.

Therefore, the aim of this study is to provide an initial conceptual model of information and knowledge cluster database, whose basic function is to serve business entities from Eastern Croatia by providing support for their appearance on a global, particularly digital market.In order to achieve the set objective of the research, key concepts that today define the business environment and business processes are taken into account and key factors of competitiveness in the conditions of globalization and the dynamic and turbulent market are considered.Based on the acquired knowledge, information needs and knowledge needs were explored in order to define a database model or knowledge base that serves as a service provider for business entities from Eastern Croatia, for the purpose of creating superior business strategiesin those subjects.In the research a number of scientific methods were used together with the deduction method, including the induction method, method of analysis, synthesis method, causal reasoning method, systematization method, abstraction method, classification method, generalization method, specialization method, aggregation method, method of composition, descriptive modeling method, as well as other scientific methods.

3. Research results

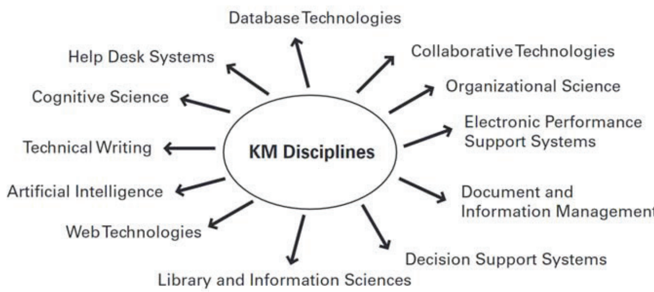
In modern business conditions characterized by the transition from industrial to new age, colloquially called the digital age, a superior business strategy that secures the survival of a business entity is achieved through a combination of technological superiority through creativity and/or innovation of products that must optimally meet customers' needs, and optimum customer satisfaction achieves market superiority, which is the second component of superior business strategy.Thus, under the conditions of the digital economy, business superiority is primarily built through a combination of:

- Technical-technological superiority and
- Market superiority.

Technical-technological superiority in digital economy is achieved thanks to the knowledge and capabilities of people who are able to create in terms of creativity and innovation more superior products than competition,and also the products that meet customers' needs.Large business entities make tremendous efforts to find experts on the one hand capable of developing and promoting products, and on the other hand to find out the needs of consumers and understand their behavior for the purpose of attracting and retaining them.In order to gain knowledge about the needs and behavior of customers and their retention and transformation into clients, the concept of relationship marketing has been developed, and it is concretised in the concept of customer relationship management.Today, this concept has a growing significance in terms of creating superior business strategies because meeting the needs of consumers is increasingly difficult.Namely, while in the industrial age consciousness and consumer awareness were extremely low, customers today, thanks to information and communication technology, have become informed and self-aware and are not satisfied with average products but are looking for products tailored to their individual needs.Such a business situation leads to new and huge challenges of permanent creativity and innovation based on knowledge about consumers' needs.Accordingly, the digital age, or digital economy, is not a time when competitiveness and business success is built on productivity, product quantification and cost elimination, but on knowledge, product quality, and ability to optimally meet consumer needs.

The term digital economy means the following: „The digital economy is growing at seven times the rate of the rest of the economy and much of this growth has been fuelled by broadband Internet. The development of high-speed networks today is having the same impact as the development of electricity and transportation networks a century ago. Achieving the digital agenda targets would clear the way to innovative services such as e-health, 'smart' cities and data-driven manufacturing" (Digital agenda for Europe, 2014, 3) Digital economy, as already stated, is based on knowledge. Thanks to this, the concept of knowledge management has been developed.„Knowledge management is the deliberate and systematic coordination of an organization's people, technology, processes, and organizational structure in order to add value through reuse and innovation. This is achieved through the promotion of creating, sharing, and applying knowledge as well as through the feeding of valuable lessons learned and best practices into corporate memory in order to foster continued organizational learning." (Dalkir, 2005, 3) Knowledge Management is not a uniform concept defined by one technology but a number of technologies used in the function of creating, collecting, storing, processing and distributing knowledge.The interdisciplinary nature of knowledge management is shown in Figure 1.

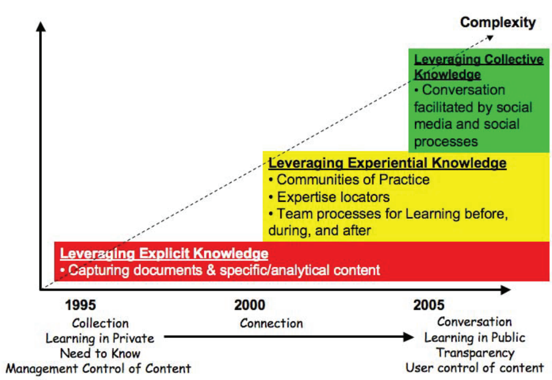
***Figure 1** Interdisciplinary nature of knowledge management*



Source: Dalkir, K. (2005) Knowledge management in theory and practice, Elsevier Butterworth–Heinemann, Burlington, p. 7.

Knowledge Management is a concept that emerged in the industrial age, but its true affirmation and full sense is gained in the digital age.Namely, contemporary knowledge management is a concept that draws its power from digital technologies that enable the collection and easy distribution of knowledge to its users.Figure 2 shows evolutionary processes in knowledge management.

***Figure 2** Knowledge management evolution*



Surce: Dixon, N (2009) Where Knowledge Management Has Been and Where It Is Going, http://www.nancydixonblog.com/2009/05/where-knowledge-management-has-been-and-where-it-is-going-part-one.html [4.3.2018]

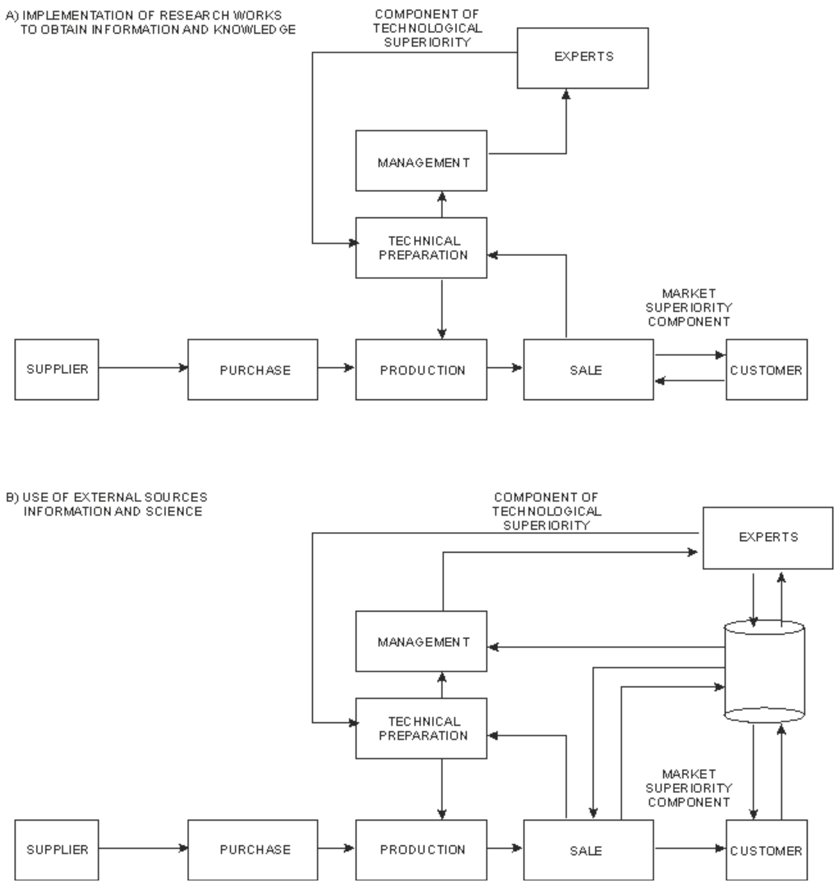
One of the concepts involved in the elements of knowledge management is certainly the concept of customer relationship management.„Customer relationship management (CRM) is a strategy for delivering superior customer service in order to effectively acquire, develop, and retain a company's most important assets its customers. In particular, it demands acquiring an understanding of the kinds of things that are important to each and every individual customer and developing programs that consistently satisfy those needs during every customer interaction. It is important to note that `customers' are no longer just traditional end users or consumers, but potentially they can be partners or resellers or any group that requires information or services from an organization. CRM technology has been traditionally used in the `Call Centre'/customer service type environments. CRM allows a seamless front office to back office integration, allowing a `Closed-loop' problem resolution scenario i.e. automating everything from taking the call, to providing the service, to fixing the problem/answering the query. CRM also allows the ability to maximize cross-selling or up-selling opportunities, made possible by leveraging all of the information about any given customer. It can provide a method of collaboration through every part of the organization, ensuring that customer needs are thoroughly met, through a consistency of access, providing customers with the option of reaching an organization by a variety of self-service vehicles, such as email and the Internet, and obtaining immediate results 24 h a day, 7 days a week.“ (Tyndale, 2002, 185) Figure 3 shows the Knowledge Based CRM Framework.

***Figure 3** Knowledge Based CRM Framework*

Source: Dawson, R: Knowledge Based CRM Framework, https://rossdawson.com/frameworks/knowledge-based-crm-framework/ [5.3.2018]

Large business entities have financial potential and can cope with the requirements of forming a superior business strategy through knowledge and information in accordance with the requirements of the digital age.The problem of small business entities lies in the fact that they can not deal with large business entities in this respect.This is exactly the case with business entities from the Eastern Croatia.In order to improve their position in this regard it is necessary to build a cluster of business entities of Eastern Croatia whose connection is an information system in the function of joint gathering of information and knowledge necessary for achieving a superior business strategy.Given that small businesses lack the potential to keep employed experts with the technical and technological knowledge needed to create products that compete on creativity and/or innovativeness and optimally meet individual customers' needs, it is needed that the cluster information system gathers not only information about needs and behavior of the customers, and also collects information about technical-technological experts and their knowledge and references, or the projects they worked on.Differentiating approaches to building a superior strategy between large business entities and small business entities that need to build their superior strategy on the information and knowledge produced by the cluster information system is shown in Figure 4.

Figure 4 *Potential difference in approach to building a superior business strategy for the digital age between large business entities from developed market economies and small business entities from Eastern Croatia*

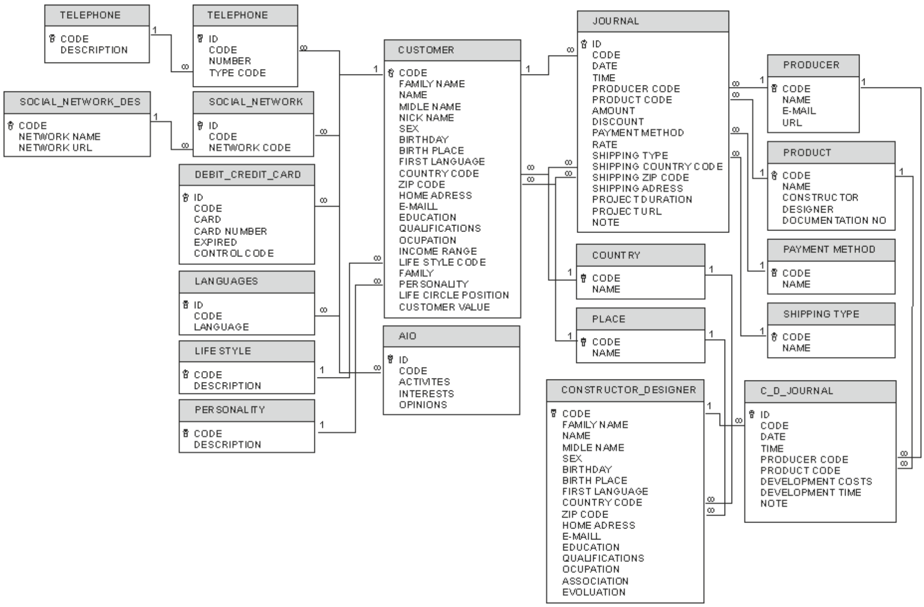


Source: Authors

The model of a database that should provide access to the necessary knowledge and information to small business entities from Eastern Croatia to build a superior business strategy for the digital age is shown in Figure 5.The model itself gives a basic view of two subsystems in the function of gathering and distributing information and knowledge, namely:

- a subsystem for gathering information on consumers and their needs (consumer relationship management sub-system) and
- a subsystem for gathering information on technical-technological experts (sub-system for managing relations with experts - knowledge holders).

Figure 5 *Principal database model i.e. knowledge base of the cluster information system of business entities of Eastern Croatia in function of building their superior strategies for the digital age*



Source: Authors

4. Conclusion

Today, a whole set of definitions of information and knowledge is present in theory and practice.While knowledge has a relatively persistent character and the time has less influence on its value, the information has a dynamic character and its value is inversely proportional to the flow of time.Therefore, in the database model, a data set describing data (metadata) as well as the data that presents the structure of the system that represents the database model are, as a rule, knowledge, and data that change according to time (diary data type) form the basis from which the information is performed.For this reason, the database is, among other things, a technology of knowledge management and a printout database model that is the result of this research is the source of information and source of knowledge.The database as it is, is the system base and the starting point for building an application database that through the document management system and the input-output subsystem based on Web technologies should be the final information cluster system of business entities in the function of ensuring the construction of a superior strategy for its digital age users.Therefore, the final model of the subject system should merge the following technologies:

- Database Technologies
- Web Technologies
- Document and Information Management

Due to the limited space foreseen for the results of the research, no other model positions have been elaborated in this paper, except for the model of the database or the knowledge base.However, the principle model represents a technological solution and for its application there should be a preparation which opens a range of problems, from those of the institutional and legislative nature, to those relating to the organizational dimension of the problem, and the establishment and realization of the relationship between system users.Apart from the technology of realization of the concept, questions of data collection and distribution, as well as the right to information and knowledge are important.Accordingly, this research and its findings set the foundation on which business entities from Eastern Croatia can build their own competitiveness in the conditions of digital society.

REFERENCES

Dalkir, K. (2005):***Knowledge management in theory and practice***, Elsevier Butterworth–Heinemann, Burlington

Digital agenda for Europe (2014), European Commission, Directorate-General for Communication-Citizens information, Brussels

Tyndale, P. (2002):***A taxonomy of knowledge management software tools:origins and applications***, Evaluation and Program Planning, No. 25

BIBLIOGRAPHY

Alavi, M., Leidner, D.E. (2001):***Review:Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues***, MIS Quarterly, Vol. 25 No. 1, pp. 107-136

Dawson, R: ***Knowledge Based CRM Framework,*** https://rossdawson.com/frameworks/knowledge-based-crm-framework/(accessed 5 March 2018)

Dixon, N (2009):***Where Knowledge Management Has Been and Where It Is Going***, http://www.nancydixonblog.com/2009/05/where-knowledge-management-has-been-and-where-it-is-going-part-one.html (accessed 4 March 2018)

Dukić, S. (2012):***E-Marketing humanitarnih i vjerskih organizacija,*** doktorska disertacija, Ekonomski fakultet u Osijeku, Osijek

Uriarte, Jr, F. A. (2008):***Introduction to Knowledge Management***, ASEAN Foundation, Jakarta

Meler, M., Dukić, B. (2007):***Upravljanje odnosima – od potrošača do klijenta***, Ekonomski fakultet u Osijeku, Osijek.

Vjekoslav Galzina, Assistant Professor, **Ph.D.**
University of Josip Juraj Strossmayer in Osijek, Faculty of Education
Cara Hadrijana 10, 31000 Osijek
Phone: +385 35 49 2640 Fax: +385 31 32 1899
E-mail address: vgalzina@foozos.hr

Emina Berbić Kolar, Associated Professor, **Ph.D.**
University of Josip Juraj Strossmayer in Osijek, Faculty of Education
Cara Hadrijana 10, 31000 Osijek
Phone: +385 35 49 2641 Fax: +385 31 32 1899
E-mail address: ebkolar@foozos.hr

Roberto Lujić, Full Professor, **Ph.D.**
University of Josip Juraj Strossmayer in Osijek, Mechanical Engineering Faculty in Slavonski Brod
Trg Ivana Brlić Mažuranić 2, 35000 Slavonski Brod
Phone: +385 35 446 188, Fax: +385 35 446 446
E-mail address: rlujic@sfsb.hr

KNOWLEDGE EXTRACTION AND INTEGRATION BY MEANS OF FUZZY LOGIC PARADIGM IN PROCESS CONTROL

PARADIGMA NEIZRAZITE LOGIKE U DEFINIRANJU SPOZNAJA I INTEGRACIJI ZNANJA U VOĐENJU PROCESA

ABSTRACT

Fuzzy Logic inherits its origins from the ancient philosophy and the philosopher's reflection of possibility of existence of the law that would be able to overcome the dualistic truth-lie principle. Lotfi E. Zadeh published his basic work on the theory of the fuzzy sets in 1965 and opened up a new area of research, activities and thinking. The first proven practical applications of the fuzzy logic followed in the 1970s. Zadeh, and others later, have prepared a fuzzy mathematical apparatus that allows the use of vague expressions and formulations (such as "Little Slow", "Usually Wrong", "Very Cold" or "Seldom Red"), which in strictly mathematical defined rules map the domain of imprecision of human thought and expression in the codomain of real solutions. Concisely, fuzzy logic mathematically emulates human thinking. Fuzzy logic is a tool that releases the possibility of exploiting subjective knowledge in the integration of knowledge, which is discussed in the paper through an overview of the simpler and complex problems we face in the process control. Although fuzzy logic is often associated with controllers and tackling with technical problems characterized by nonlinearity, it shows its flexibility and suitability in solving process management problems as well as in other areas of human interest. The paper proposes potent directions of application of fuzzy logic in process management, especially for tackling with decision-making problems. Appropriate lay out of fuzzy variables and fuzzy functions and formation a set of fuzzy rules enables decisions based on a smaller amount of information, than it is the case with conventional methods. In a business environment, the paradigm of fuzzy logic brings human subjectivity into objectivity of science and business processes, and as a method by which we can use subjective human knowledge and to use it as it is, without complex abstractions which indeed cause quality deterioration of the final solution.

Key words: *fuzzy logic, subjectivity, fuzzy variables, decision-making, process control.*

SAŽETAK

Neizrazita logika (eng. Fuzzy Logic) svoje korijene baštini u antičkoj filozofiji i razmatranju filozofa o mogućnosti postojanja zakonitosti koji bi nadišle binarni princip istina-laž. Lotfi E. Zadeh je 1965. objavio svoj temeljni rad o teoriji neizrazitih skupova i otvorio jedno novo područje istraživanja, djelovanja i promišljanja. Prve dokazane praktične primjene neizrazite logike dogodile su se 70-ih godina prošloga stoljeća. Zadeh, a kasnije i drugi, priredili su neizraziti matematički aparat koji omogućava korištenje nejasnih izraza i formulacija (kao što su na primjer: „Malo sporo", „Obično krivo", „Jako hladno" ili „Rijetko crveno") koje u strogo matematički definiranim pravilima preslikavaju domenu nepreciznosti ljudske misli i izražavanja u kodomenu realnih rješenja. Kraće rečeno, neizrazita logika matematički emulira ljudsko promišljanje. Neizrazita logika je alat koji otvara mogućnost eksploatacije subjektivnih spoznaja u integraciji znanja što se u radu razmatra kroz pregled jednostavnih i složenijih problema koje susrećemo u vođenju procesa. Iako se neizrazita logika najčešće povezuje s regulacijom i sličnim tehničkim problemima koje karakterizira nelinearnost pokazuje svoju fleksibilnost i praktičnost pri rješavanju problema vođenja procesa kao i u drugim područjima ljudskoga interesa. U radu se predlažu potentni smjerova razvoja primjene neizrazite logike u vođenju procesa posebice kod problema odlučivanja. Prikladnim oblikovanjem neizrazitih varijabli i neizrazitih funkcija te definiranjem skupa neizrazitih pravila omogućavamo odlučivanje na osnovu manjega broja informacija no što je to slučaj kod konvencionalnih metoda. U poslovnom okruženju, paradigma neizrazite logike uvodi ljudsku subjektivnost u objektivnu znanosti i poslovne procese, te kao metoda kojom možemo subjektivno ljudsko znanje i spoznaje koristiti onakvim kakve jesu, bez kompliciranih apstrakcija.

Ključne riječi: *neizrazita logika, subjektivnost, neizrazite varijable, odlučivanje, vođenje procesa.*

1. Introduction

From the first paper, that Lotfi Aliasker Zadeh published in 1965. (Fuzzy Sets in *Information and Control* 8, 338-353) as base theoretical article that changed the world in way we think, act, observe our surrounding, and define our knowledge. As other progressive ideas, it was not well received at first, quite the opposite. During the 1970s – from start it was attacked even singled out the Fuzzy[1] Logic as an example of NSF's (acronym from the United States of Americas National Science Fund) waste of taxpayer's money by Senator William Proxmire[2] and for another example Professor of Computer Sciences and Mathematics at Berkeley William Kahane in 1975. said that: "Fuzzy theory is wrong, wrong, and pernicious. The danger … is that it will encourage the sort of imprecise thinking that has brought us to so much trouble." and also: "Well, technology did not get us into this mess. Greed and weakness and ambivalence got us into this mess. What we need is more logical thinking, not less. The danger of fuzzy theory is that it will encourage the sort of imprecise thinking that has brought us so much trouble." Either way, from beginning of what we call classical logic there was a flaw installed in root of the theory – there is no possibility of third: something must be or not be (member of given set). In classical and later rigorously formalised Cantor's[3] logic there is

[1] Fuzzy – dictionary term: difficult to perceive; indistinct or vague; unable to think clearly; confused. (Synonyms: blurry, blurred, indistinct, confused, muddled, addled, fuddled, befuddled, groggy, disoriented, disorientated, mixed up, fazed, perplexed, dizzy, stupefied, benumbed. Antonyms: clear, sharp.)

[2] William Proxmire (1915 – 2005) was USA Democratic Party politician, senator (representing the state of Wisconsin) from 1957 to 1989. Proxmire was famous for issuing his *Golden Fleece Award* that was presented monthly from 1975 till 1988. His goal was to focus media attention on projects that he viewed as self-serving and wasting of taxpayer's money. The first Golden Fleece Award was awarded in 1975 to the National Science Foundation, for funding an $84,000 study on why people fall in love. [Severo, 2005]

[3] Georg Ferdinand Ludwig Philipp Cantor (1845 – 1918) was a German mathematician and inventor of Set theory among other theoretical and practical mathematical discoveries. Cantor's Set theory is one of fundaments of modern mathematical knowledge whose detailed properties and possible variants are still an active research field.

an arranged set of …. In word of Zadeh himself Fuzzy Logic is not *fuzzy* at all, it is mathematically strict and it is a precise logic of approximate reasoning and approximate computation. Idea behind Fuzzy Logic was well thought, how to approximate human reasoning and in same time overcome limitations of classical logic. Solution was in same time fairly pretentious and faded. One can be in different proportion part of one and other sets, so there is no need of exclusion of third as it is strictly stated in classical logic. This, and other elements of Fuzzy Logic paradigm made the needed shift and made new way and acting possible. Since then Fuzzy Logic was embraced first in the Europe and especially in the Japan where in the early days the possibilities of new paradigm was embraced. Early fruitful uses of Fuzzy Logic can be found in waste areas of application – from first successful usage based on United Kingdom's professor Ebrahim Mamdani[4] (made in middle 1970's) design suggested for boilers control was successfully used in Denmark's cement plant control system in 1980. At the same time we can notice a number of successful applications and patent applications rising worldwide, first and foremost in Japan and later elsewhere. Fuzzy Logic can be regarded as fruitful branch of Artificial Intelligence, AI paradigm and one of basic tool we can use to tackle real problems facing of humanity.

2. Fuzzy Logic basics

Fuzzy Logic inherits its origins from the ancient philosophy and the philosopher's reflection of possibility of existence of the law that would be able to overcome the classical strict dualistic principle. As Zadeh refer to in his paper *Fuzzy Sets*: "…more often than not, the classes of objects encountered in the real physical world do not have precisely defined criteria of membership… Yet, the fact remains that such imprecisely defined classes play an important role in human thinking, particularly in the domains of pattern recognition, communication of information, and abstraction". (Zadeh, 1965) Zadeh in that way proposed the fuzzy sets as mathematical models of linguistic expressions that signify a class with a continuous scale of grades of membership. One entity can have partial membership to the set; it means that an entity could be in one, two or any number of sets at the same time but to different degrees. Consequently, the fundamental concept of Fuzzy Logic is the degree of set membership defined for every given entity. These cautiously worked-out models, called fuzzy sets, are the foundation stone of the Fuzzy Systems itself. Therefore, Fuzzy System is a system of variables that are allied using Fuzzy Logic sets. These systems are described in an interpretable way by means of linguistic expressions we usually use in our thinking, and verbal articulation.

Fuzzy Logic have appealed the attention in abundant number of real world situations for the reason that most conventional approaches from classical logic or statistics adopt that we deal with strict measurements or at the opposite fully random values. The certainty of real problems, on the other hand, is neither of those two extremes - neither truly deterministic, neither absolutely random. As Zadeh presented during the *Alfred Korzybski Memorial Lecture* held at the *Yale Club of New York City* in November 1994, Fuzzy Logic can be divided in two mayor outlets (*Figure 1*) narrow and wide. Also, there are many development directions and usages of Fuzzy set theory, as it is shown on *Figure 2*. Where any field *X* can be fuzzified by replacing crisp sets in *X* by fuzzy sets (*Fuzzy X*).

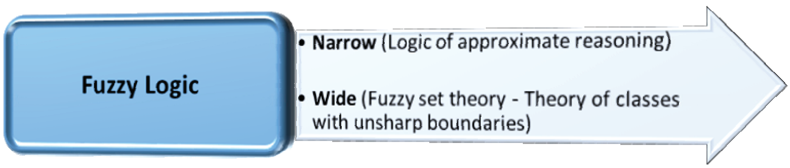
In classical set theory (where S_i represents a certain set), an object or entity (represented as x) can either:

[4] Ebrahim Mamdani (1920 – 2010) was a British scientist and Fuzzy Logic pioneer. Mamdani fuzzy inference is the most widely used method of fuzzy logic and basis for the development of the first successful control system using fuzzy set theory. E. Mamdani (along with S. Assilian) proposed in 1975 such an attempt to control the combination of steam engines and boilers by synthesizing the rules of regulation by using expert knowledge of human operators and their language-defined fuzzy rules. Although the conclusion process described in this paper differs slightly from the methods described in the original work, the basic idea is the same. Conclusion of the Mamdani type, expects the output member to be a fuzzy set. After the process of aggregation, there is a fuzzy set for each output variable. Finally, defuzzification is needed to get a final output value.

1) belong to the set ($x \in S_i$)

0) not belong to the set ($x \notin S_i$)

Figure 1 *Two main branches of Fuzzy Logic initial development*



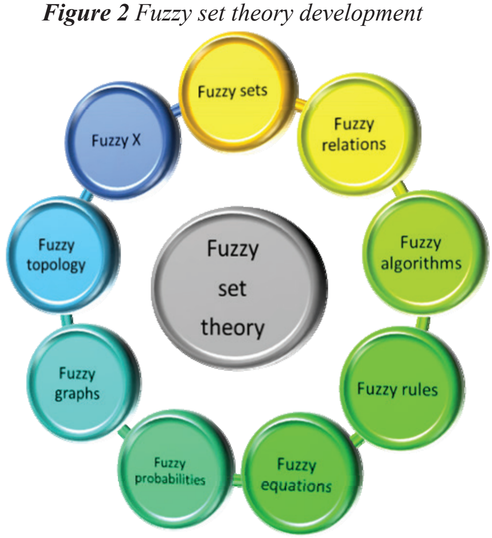
Source: the authors of the paper (made according to Zadeh, 1994)

However, a real-world scenario does not usually have a precise measurement or sharp boundaries at all. For this reason, in Fuzzy Logic, an object (value or entity) can partially belong to a certain fuzzy set. Thus, this belonging, or conventionally in Fuzzy Logic membership to a set, needs to be described by a value. This value of membership to the set i is denoted as μ_i, and is normalized in such whey that μ_i in real set of values between [0,1]. In addition, it is necessary that the total membership to all sets of an object add up to whole number 1:

$$\sum_{i=1}^{k} \mu_i = 1$$

- where k is the total number of sets.

Figure 2 *Fuzzy set theory development*



Source: the authors of the paper (made according to Zadeh, 1994)

We could thus say that classical logic is really subset of Fuzzy Logic, or it is a special case of Fuzzy Logic where membership to the fuzzy set can only be in extremes 0 or 1.

On example of Mamdani fuzzy rule based inference system, it can be seen that is similar to any other fuzzy rule based inference system. Other types of fuzzy rule based inference system are Standard Additive Model (Kosko B., 1991) and Takagi-Sugeno-Kang model, usually just called Sugeno model (Takagi T. & Sugeno M., 1985, Sugeno M. & Kang G., 1988).

Two main components of Mamdani model could be recognised: the fuzzy inference system – which implements the fuzzy reasoning process to be applied on the inputs to get the outputs) and the fuzzy knowledge base – which represents the knowledge about the problem being solved. This outline is graphically represents in *Figure 3*. There is a *Knowledge base* – with two components: *Data base* and *Rules base* and these two together represent knowledge we have on the given problem. *Input* data (real world values or entities) must be *fuzzified* e.g. real-world values transcribed by means of fuzzy sets to be used in calculations made in *Inference system* (with help of *Knowledge base*), and finally output fuzzy values must be *defuzzified* to return back real-world values to the *Output*.

Knowledge base contains collection of fuzzy IF-THEN rules that consist of linguistic variables that take the value in terms of the defined fuzzy set with the actual real-world meaning. Fuzzy sets that define the semantics of the linguistic tags are uniformly defined for all the rules included in the *Knowledge base*, making it easier for the human readability of the system in whole.
This collection of fuzzy semantic rules represents a descriptive approach because *Knowledge base* becomes a real qualitative description of the given system. In addition, the division between fuzzy rules structure and their tagging allows us to distinguish two different components: the fuzzy *Rules base*, which contain a fuzzy instructions, and *Fuzzy database* that contains the fuzzy partition function associated with the semantic variables.
The fuzzy rule structure is the language fuzzy models that take into account the semantic variable (to in the end provide a real-world output result) as follows:

$$\textbf{\textit{If}}\ X_i\ \textbf{\textit{is}}\ A_i\ \textbf{\ldots}\ \textbf{\textit{and}}\ X_n\ \textbf{\textit{is}}\ A_n,\ \textbf{\textit{then}}\ Y_j\ \textbf{\textit{is}}\ B_j,$$

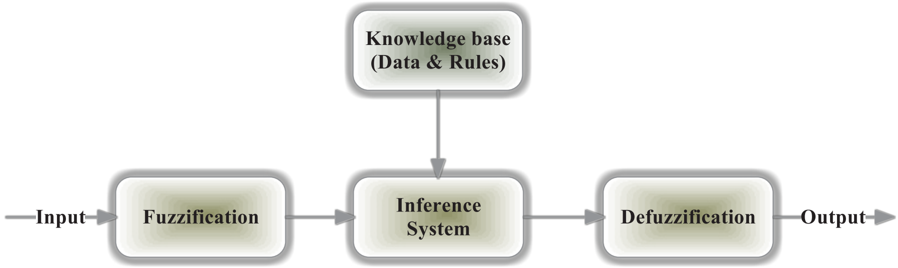
- with X_i and Y semantic input and output variables, i.e., with A_i and B_j are semantic tags associated with fuzzy sets that indicate their real-world connotations. These fuzzy sets are defined in their universes of discourse $U_1, \ldots, U_{i,} \ldots U_n$, and are characterized by their membership functions in relation: $\mu_{Ai(Bj)}$: $\mu_{Ui(Un)} \rightarrow [0, 1]$, $i = 1, \ldots, n$.

In the Mamdani type fuzzy system we can recognise several main system features. It delivers a natural framework for engaging expert knowledge in the form of semantic fuzzy rules. This knowledge can further be combined with rules that are automatically generated from data sets describing the relationship between inputs and outputs. In addition, there are many different forms of shaping the fuzzy locking mechanism.

The Mamdani type fuzzy system provides a flexible way of formulating and at the same time remains natural, which is the designer's quintessence, until the final sub-optimal design is developed.

Of course, there are disadvantages, for example, a potentially defective accuracy when modelling complex problems with a lot of input variables or incomplete expert knowledge when designer can not extrapolate and interpolate missing data from available. This is due to the inflexibility of the concept of semantic variables that impose strict limitations on the structure of a fuzzy rule.

Figure 3 *Plain schema of Mamdani type fuzzy rule based inference system*



Source: the authors of the paper

Descriptive supremacy is obtained at the expense of the exponentially increased complexity of the model. This means that many rules will be needed to bring the system closer to a certain degree of accuracy (especially if there are a lot of input variables) as a result of the strict allocation of the input and output solution spaces of the final solution.

Development of Fuzzy Logic did not stop at one-dimensional problems, as Zadeh speculated and later defined possibility of Fuzzy Logic of grater order of fuzziness so there are promising works made by several groups of scientist in developing Type-2 (two-dimensional fuzzy set theory) or even further Type-n (n-dimensional fuzzy set theory) which is beyond the scope of this paper.

3. Fuzzy Logic applications examples

As we mentioned in Introduction first successful application of Fuzzy Logic was in field of process control (cement industry kiln control) as representative example of process difficult to control and previously dependant solely on skill of experienced process operators. From there, Fuzzy Logic has make a long trip and tackled many real problems with different degrees of successfulness.

Another burst on AI success, and usage of Fuzzy Logic came with merging of different AI methods together. Therefore, now we have usage of Fuzzy Logic with variety of other AI methods like blends with neural networks or different brands of evolutionary algorithms. One of common combined methods that exploits best trades of two methods (Neural Networks and Fuzzy Logic) is Artificial Neural Fuzzy Interference System, ANFIS. Others combine Fuzzy Logic with Genetic Algorithms, Particle Swarm Optimisation and other stochastic methods, or combinations of Neural Network, Fuzzy Logic and evolutionary algorithms. It has shown his strength in dealing with real word problems of prediction in waste areas like: prediction of stock market prices (Svalina, I. at al., 2013, and Hadavandi, E., 2010), estimation of rocks elastic constant (Singh R. at al., 2012 and Alemdag, S. at al., 2016), supplier selection problem (Güneri AF. at all, 2011, Ohdar, R. & Ray, P. K., 2004), controls for the car-following collision prevention system (Mar J.; Lin F.J., 2001), weather forcasting of area (Tektaş M., 2010), different medical and biomechanical studies, heart diseases prediction (Bahekar L. at al., 2017), hormones interaction prediction (Mohan I.K. at al. 2017), prediction of Body Mass Index (Tabrizi S.S., Sancar N., 2017), control of lower limb exoskeleton (Rodriguez, C.A., 2017). There are many more usages and practically there are no limitations. There are similarities in all of these applications – we use stochastic elements, neural learning mechanisms or both from one side, and extraction of knowledge or fuzzy rules from another to successfully deal with different problems.

4. Conclusion

One can only speculate in what measure decision on naming his logic fuzzy Zadeh's did influence the reception, particularly in a scientific community and especially at the beginnings. At the same time, fuzzy logic is also an example of how good idea backed up with solid scientific proof, at the end of the day breaks all the prejudices and become generally acceptable. In successful examples of usage in different fields and great number of applications, this method showed how useful and potent it could be. Finally, we can predict with a degree of fuzziness that Fuzzy Logic independently and in combination with other methods of Artificial Intelligence has a solid future and will be one of the methods that will change the world we live in, hope for the better.

REFERENCES

Alemdag, S. at al. (2016): ***Modeling deformation modulus of a stratified sedimentary rock mass using neural network, fuzzy inference and genetic programming***. Engineering Geology 203, 70-82.

Bahekar L. at al. (2017): ***Heart valve diseases detection using ANFIS and Wavelet transform***. International Journal of Research in Science & Engineering, Volume 3, Issue 2, 279-291

Garrido, A. ***A Brief History of Fuzzy Logic***. (2012): BRAIN: Broad Research In Artificial Intelligence & Neuroscience, 3, 1, pp. 71-77, Academic Search Complete, EBSCOhost, (Accessed February 3, 2014)

GüNeri A.F.; Ertay T.; YüCel A. (2011): ***An approach based on ANFIS input selection and modelling for supplier selection problem***. Expert Systems with Applications– Elsevier

Hadavandi, E., Shavandi, H. and Ghanbari, A. (2010): ***Integration of genetic fuzzy systems and artificial neural networks for stock price forecasting***. Knowledge-Based Systems, 23(8), pp. 800-808

Kosko B. (1991): ***Fuzzy associative memories***. In: Fuzzy Expert Syst. CRC Press; 1991.

Mar J.; Lin FJ. (2001): ***An ANFIS controller for the car-following collision prevention system***. IEEE Transactions on vehicular technology

Mohan I.K. at al. (2017): ***Application of adaptive neuro-fuzzy inference systems (ANFIS) to delineate estradiol, glutathione and homocysteine interactions***. Clinical Nutrition ESPEN, Volume 20, 41 – 46

O'Connor, J.J.; Robertson, E.F. (1998): ***Georg Ferdinand Ludwig Philipp Cantor***. http://www-history.mcs.st-andrews.ac.uk/Biographies/Cantor.html , 1998. (Accessed January 31, 2017)

Ohdar, R. & Ray, P. K. (2004): ***Performance measurement and evaluation of suppliers in supply chain: an evolutionary fuzzy-based approach***. Journal of Manufacturing Technology Management, 15(8), 723-734.

Severo, R. (2005): ***William Proxmire, Maverick Democratic Senator From Wisconsin, Is Dead at 90***. The New York Times, December 16, 2005. (Accessed January 31, 2018)

Singh R.; Kainthola A.; Singh TN. (2012): ***Estimation of elastic constant of rocks using an ANFIS approach***. Applied Soft Computing,– Elsevier

Sugeno M. & Kang G. (1988): ***Structure identification of fuzzy model***. Fuzzy Set Syst 1988, 28(1), 15–33.

Svalina, I.; Galzina, V.; Lujić, R.; Šimunović, G. (2013): ***An adaptive network-based fuzzy inference system (ANFIS) for the forecasting: the case of close price indices***. Expert systems with applications, 40, 15; 6055-6063

Rodriguez, C.A.; Ponce, P. & Molina, A. (2017): ***ANFIS and MPC controllers for a reconfigurable lower limb exoskeleton***. Soft Computing, 21:571–584.

Tabrizi S.S., Sancar N. (2017): ***Prediction of Body Mass Index: A comparative study of multiple linear regression, ANN and ANFIS models***, Procedia Computer Science, Volume 120, Pages 394-401

Takagi T. & Sugeno M. (1985): ***Fuzzy identification of systems and its applications to modeling and control***. IEEE T Syst Man Cy 1985, 1, 116–132.

Tektaş M. (2010): ***Weather Forecasting Using ANFIS and ARIMA MODELS. A Case Study for Istanbul***. Environmental Research, Engineering and Management, No. 1(51), P. 5 – 10

Zadeh, L.A. (1994): ***Fuzzy Logic: Issues, Contentions and Perspectives***. Computer Science Division, University of California, Berkeley, ALFRED KORZYBSKI MEMORIAL LECTURE 1994, [At the Yale Club of New York City, November 4, 1994]

Zadeh L.A. (2005): ***Fuzzy Logic—Forty Years later a Personal perspective***. Computer Science Division Department of EECSUC Berkeley, BISCSE'05, UC Berkeley, November 5, 2005

Marina Gregoric, PhD
Međimurje Polytechnic in Čakovec
Bana Josipa Jelačića 22a, Čakovec, Croatia
Phone: +385994040164 Fax: +38540396980
E-mail address: marina.gregoric@mev.hr

Jasenka Haleus, mag.oec.
University College Nikola Subic Zrinski
Selska cesta 119, Zagreb, Croatia
Phone: +385989060843 Fax: + 3850800 442442
E-mail address: jasenka2102@gmail.com

Silvija Zeman, PhD
Međimurje Polytechnic in Čakovec
Bana Josipa Jelačića 22a, Čakovec, Croatia
Phone: +385994498247 Fax: +38540396980
E-mail address: szeman@mev.hr

Prof. Ana Vovk Korže, PhD
University of Maribor
Koroška c. 160, 2000 Maribor, Slovenia
Phone: +38651622766 Fax:
E-mail address: ana.vovk@um.si

THE IMPORTANCE OF BRANDING OF AGRICULTURAL PRODUCTS WITH QUALITY LABELS AND THEIR RECOGNITION IN CROATIAN MARKET

VAŽNOST BRENDIRANJA POLJOPRIVREDNIH PROIZVODA KOJI NOSE OZNAKU KVALITETE I NJIHOVA PREPOZNATLJIVOST NA HRVATSKOM TRŽIŠTU

ABSTRACT

The purpose of the research paper is the importance of branding products bearing one of the quality marks (European Union or national branding) and their recognition on the Croatian market. Marketing Quality Marks promoted by Croatian Agricultural Agency are: "Honey from our beautiful, Controlled quality, Croatian island product, Egg of Croatian farms, Meat of Croatian farms, Milk of Croatian farms". Quality Marks of the European Union for Agricultural and Food Products (Ministry of Agriculture) are: "Protected designation of origin, protected designation of geographical origin, Traditional specialty guaranteed". The Croatian Chamber of Commerce is behind the branding of products bearing the inscriptions "Croatian Quality and Original Croatian". Zagreb trademarks were protected as the intellectual property of a producer association: "Zagreb's fresh cow cheese (ZG sirek), Jagodica purgerica (Strawberry Purgerica), Zagreb pušlek, Zagreb cherry". Branding an agricultural product means creating a certain awareness among consumers, making it recognizable on the market. In order to achieve that, it is important to involve agricultural experts from the beginning of the production preparation process through soil treatments (strict control of chemical substances) and environmental protection. Methodology used is historical, analysis and synthesis as well as quantitative and qualitative *primary research. Quantitative method was conducted through questionnaire distributed to random sample of Croatian consumers with response of 920 collected responses. The research shows how many users of quality agricultural products at the EU level or users of marketing quality labels at the Croatian level are familiar with the labels, whether the quality labels are sufficiently commercially promoted and how it influences consumers buying preferences. Qualitative research was conducted by interviewing Assistant Minister at Ministry of Agriculture and Deputy Head of City Office for Agriculture and Forestry at City of Zagreb. The research results show that promotion of national agricultural products with labels of quality is extremely important for consumers but still not sufficient and needs to be improved on all levels; by producers, Ministry of Agriculture, City of Zagreb and all stakeholders.*

Key words: *branding, promotion, Croatian agricultural and food products, quality labels, national quality labels*.

SAŽETAK

Predmet istraživanja ovoga rada je važnost brendiranja proizvoda koji nose jednu od oznaka kvalitete (Europske unije ili nacionalne marketinške oznake) i njihova prepoznatljivost na tržištu Hrvatske. Marketinške oznake kvalitete (Hrvatske poljoprivredne agencije) su: "Med iz Lijepe naše, Kontrolirana kvaliteta, Hrvatski otočni proizvod, Jaja hrvatskih farmi, Meso hrvatskih farmi, Mlijeko hrvatskih farmi". Oznake kvalitete Europske Unije za poljoprivredne i prehrambene proizvode (Ministarstva poljoprivrede) "Zaštićena oznaka izvornosti, Zaštićena oznaka zemljopisnog podrijetla , Zajamčeno tradicionalni specijalitet"Hrvatska Gospodarska komora stoji iza brendiranja proizvoda koje nose oznake "Hrvatska kvaliteta i Izvorno hrvatsko". Zagrebačke robne marke zaštitile su kao intelektualno vlasništvo proizvođačke udruge: "Zagrebački friški kravlji sir ZG sirek, Jagodica purgerica, Zagrebački pušlek, Zagrebačka trešnja". Brendiranje poljoprivrednih proizvoda znači stvaranje određene svijest kod potrošača te ga učiniti prepoznatljivim na tržištu. Cilj istraživanja ovoga rada je prepoznatljivost poljoprivrednih proizvoda s jednom od oznaka kvalitete kod potrošača te važnost brendiranja takvih proizvoda. Da bi se to postiglo, važno je uključiti poljoprivredne stručnjake od početka procesa pripreme proizvodnje kroz tretman tla (stroga kontrola kemijskih supstanci) i zaštite okoliša. Metode korištene u ovome radu su povijesna, analiza i sinteza, kao i kvantitativna i kvalitativna primarna metoda istraživanja. Kvantitativna metoda provedena je putem upitnika distribuiranog slučajnom uzorku hrvatskih potrošača uz 920 prikupljenih odgovora. Istraživanje pokazuje koliko su korisnici kvalitetnih poljoprivrednih proizvoda na razini EU ili korisnici marketinških oznaka kvalitete na hrvatskoj razini upoznati s oznakama, bez obzira na to jesu li kvalitetne oznake dovoljno komercijalno promicane i kako utječu na sklonost potrošča ka kupnji. Kvalitativno istraživanje provedeno je intervjuiranjem pomoćnika ministra u Ministarstvu poljoprivrede i zamjenika voditelja Gradskog ureda za poljoprivredu i šumarstvo Grada Zagreba. Rezultati istraživanja pokazuju da je promocija nacionalnih poljoprivrednih proizvoda s oznakama kvalitete izuzetno važna za potrošače, ali još uvijek nije dovoljna te ju je potrebno poboljšati na svim razinama; proizvođača, Ministarstva poljoprivrede, Grada Zagreba i svih zainteresiranih strana.

Ključne riječi: *brendiranje, promocija, hrvatski poljoprivredni i prehrambeni proizvodi, oznake kvalitete, nacionalne oznake kvalitete***.**

1. Introduction

Despite the demanding procedure there are more and more Croatian producers of agricultural products that aim to brand and produce their products according to quality standards either on the EU level or as the marketing quality labels. The market is recently showing more and more interest in products produced according to quality standards. Consumers seek for agricultural products where they are convinced that the beginning of the process of soil preparation, it's growth without chemical supplements as well as final production are based on quality. Quality is first and foremost customer satisfaction, and the customer decides whether there is a quality or not. The geographical position of the Republic of Croatia is an advantage in the diversity of natural and climatic conditions, the richness of the tradition of certain areas and the vast number of autochthonous products that can successfully compete on the European and international market through their specific production, taste, smell and quality. Branding of such products is easier for marketers and distribution from producer to consumer is more efficient. Quality labels at EU level or Croatian national marketing labels are brands liked by consumers. The visual appearance of the product itself is also important when choosing and purchasing. It also helps in positioning of the product amongst competitors. Products with quality marks of either European or national designations intent to increase buyer's awareness of quality. Importance of branded agricultural products has been recognized by the Ministry of Agriculture through the European Union quality label for agricultural and food products (protected designation of origin, protected geographical indication and guaranteed traditional specialty), Croatian Agricultural Agency through marketing projects of Croatian agriculture (Milk of Croatian Farms, Eggs of Croatian Farms, Bread of Croatian Fields, Honey from Our Beautiful, etc). The Croatian Chamber of Commerce stands behind the branding of products labelled as "Croatian Quality" and "Originally Croatian". The counties and towns have been increasingly introducing marketing product labels too.

1.1. Aim of the research

The importance of branding products bearing one of the quality marks (European Union or national branding) and their recognition on the Croatian market is the main aim of this research. Research goals are to find out the awareness of such products amongst Croatian consumers, to identify to which extent consumers find quality labelled products important, how they perceive the quality of such products and is it sufficiently promoted in Croatian market.

1.2. Methodology

Methodology used is in this research is historical, analysis and synthesis as well as quantitative and qualitative primary research. Quantitative method was conducted through questionnaire distributed to random sample of Croatian consumers with response of 920 collected responses. The research shows how many users of quality agricultural products at the EU level or users of marketing quality labels at the Croatian level are familiar with the labels, whether the quality labels are sufficiently commercially promoted and how it influences consumers buying preferences. Qualitative research was conducted by interviewing Assistant Minister at Ministry of Agriculture and Deputy Head of City Office for Agriculture and Forestry at City of Zagreb.

2. Literature review

Brand is a recognizable mark or name of a product and service that often implies a certain quality. To meet customers' expectations and to create product which will be perceived as brand, it must leave a strong impression on the buyers. This impression is gained with quality, availability, appearance and ultimately acceptable price.

"The brand identity elements can be: brand name, logo-symbol-sign, slogan, jingle (tune), packaging, shape, colour, characters, smell, touch, etc. There are six required criteria when selecting the brand identity elements: unforgettable, meaningful, attractive, portable, adaptable and protected" (Keller, 2003,175). "The brand is not build by attracting new but by retaining existing customers" (Wreden, 2010, 17). Back in the 1800's. branding became a discipline when Campbell's and Heinz as well as other companies created certain brands to highlight their goods at the time of mass production. Branding has become more profitable in the 20th century, but unfortunately some companies have become almost worthless at a time when the mass market economy has been thrown out so many brands that they have lost their meaning. The change came when company Philip Morris made its best products more competitive based on price rather than a brand (Wreden, 2010, pp. 36-37). Before the very beginning of product branding, several questions were asked: What do we want from the product? Who should be our buyers? To whom is the product intended? In order to create brand from any product, there is a time and communication towards consumers needed. Without time nothing can drastically change consumer's mind (Kotler, 2006). "Advertising is the most powerful communication tool for creating awareness of the company, product, service and idea" (Kotler, 2006, 115).

Creating a brand is an art because consumers when purchasing non-branded products consider it as necessities, and the main decision making element of choice is the product price. Brand-name unsupported by quality will not attract the buyer again. The name of the brand itself has a profound effect on positioning of the product on the market. The name should suggest the high quality of a particular product or at least not suggesting something which is not of the highest quality. When choosing a brand name, several issues need to be addressed; which associations are positive, which are negative with a particular product? how strong is each association? are some associations unique? (Kotler, 2006). "The mark appears in all shapes and sizes: they can be specific or general, tangible or intangible, global or national, costly or inexpensive but in most cases what makes them powerful is not just what they are but what they represent" (Olins, 2003,17). Trademark means selling products under the same quality label on the market. Trademarks are considered "quality assurance". Through a trademark, the seller can build a better image of his or her product and show the customer a product of higher quality. The brand is very often linked to the geographical area, linking the quality and origin of the product (Dentoni, Gow, 2009). The brand value is in the consumer's mind. The goal of each marketing expert is to create a strong brand, and in order to achieve this, the thoughts, feelings, consumer beliefs of certain products should be influenced; all with a single goal of linking the brand to consumers. The trade mark is a set of mental associations that reflect the value of a product or service. The value of a particular brand is reflected in rational and emotional links between brands and consumers (Keller, 2008).

3. Croatian quality labels and trademarks

In order to achieve greater competitiveness and profitability agricultural producers build their reputation by the high quality of agricultural products, because quality is one of the key issues for consumers. Today, when purchasing food products, consumers pay great attention to declaration of products, they are increasingly interested in the raw materials from which certain products have been created. There are several different quality labels on the Croatian market, some of which are trademarks of cities, counties, marketing agencies or EU quality labels carried out by the Ministry of Agriculture. European Union Quality Marks for Agricultural and Food Products are: Protected designation of origin, protected designation of geographical origin and Traditional specialty guaranteed (www.mps.hr). National Quality labels are: Honey from Our Beautiful, Controlled quality, Croatian island product, Eggs of Croatian farms, Meat of Croatian farms, Milk of Croatian farms (www.hpa.hr). National quality labels branded by Croatian Chamber of Economy are: Croatian quality and Originally Croatian. Zagreb City trademarks were protected as intellectual property of producer associations (http://znakovi.hgk.hr/en/proizvod/). The following brands belong within their trademarks: Zagreb fresh cow cheese, Strawberry Purgerica, Zagreb Puslek and Zagreb Cherry (www.zagreb.hr).

"EU quality labels for agricultural products and nutrition are information mechanisms that guarantee consumers the purchase of high quality traditional products with a clear local origin. Products labelled with a quality system are implemented in accordance with the product specifications regulations, approved and recognized by the European Commission, and their production is under the control of the competent authorities. Products labelled with one of the quality labels are products for which product groups have produced the product specification and initiated and completed the EU-level protection procedure. After the termination of the name protection process, those producers whose production is based on the recognized product specification and in the system are production control, have the right and obligation to mark the product with the appropriate mark or label of the quality system for agricultural and food products"[1]. Today, 18 agricultural and food products are registered in the European Union with a protected geographical indication in the EU. The Republic of Croatia has not entered the European Union so long ago, and takes 13th place by the number of quality marks. Geographical indication is the name of a geographical region or a sign indicating that a product or a service originate from a specific geographical locality and possess specific quality and characteristics attributable to its geographical origin. Designation of origin is a special kind of protection, and shall imply essential or exclusive inherent natural and human factors of the geographical environment resulting in specific quality and properties of products or services. For designations of origin it is normally required that the process of production, preparation and processing of designation of origin shall be entirely carried out in the designated place of origin (www.dziv.hr). Some of the agricultural food products bearing labels of designation of origin in Republic of Croatia are: Lamb from Lika, Kulen from Baranja, Ham[2] from Drnis, Ham[3] from island Krk, Potato from Lika, Turkey from Zagorje, Zagorje teters (mlinci), Smoked meat from Međimurje County, etc (www. mps.hr). "The designation of origin is a more specific form of protection and necessarily implies the essential or exclusive impact of particular natural and human factors of a particular geographical environment and hence the particular quality and properties of products or services. When designating originals, it is generally required that production, preparation and processing of products and services take place entirely in the designated area.

Apart from the name of a geographical area or a sign indicating that a particular product or service originates from a particular geographical area, authenticity may also be used to protect the traditional geographic and indelible names used to designate products or services that originate in a particular region or place, conditions" (http://www.dziv.hr/hr/intelektualno-vlasnistvo/oznake/). Products with the original designation on their packaging have a prominent logo. Some of the products bearing label of designation of origin are: Pag salt from island Pag, Honey from Slavonia, Olive oil from island Korcula, Olive oil from island Krk, Mandarin from Neretva, Sour cabbage from Ogulin, Istrian ham, etc (www.mps.hr). The Croatian Agricultural Agency, as an institution that has been operating for years in the development of dairy sector in our country, and at the initiative of the Ministry of Agriculture, started activities for the introduction of the Sign of Milk of Croatian Farms on milk packaging from Croatian farms as well as dairy products produced from milk from Croatian farms. The use of the Sign of Milk of Croatian Farms is intended to promote the production and consumption of milk from Croatian farms and dairy products from milk from Croatian farms (http://www.hpa.hr/sektori/sektor-za-registre-informatiku-i-potporu-poslovanju/odjel-za-trziste-i-marketing-poljoprivrednih-proizvoda/mlijeko-hrvatskih-farmi/). This is an example of marketing labels bearing sing of Croatian production together with Meat from Croatian Farms, Honey from our beautiful[4], Eggs of Croatian Farms, Bread of Croatian Fields and Flour of Croatian Fields (www.hpa.hr).

The main goal of the project on Croatian farms is to ensure increased consumption of these products, promote them and create awareness amongst consumers about value and quality of local agricultural products.

[1] European Union Quality Marks for Agricultural and Food Products, Catalog of Croatian Registered and Protected Agricultural Products and Foodstuffs, page 6.

[2] Prosciutto

[3] Prosciutto

[4] Associated with the verse of Croatian hymn

4. Empirical research results

Quantitative research was conducted through distribution of questionnaire to random sample of Croatian consumers with response of 920 collected responses in period of two moth in year 2017. The research aimed to find out what is the perception and how many consumers of products bearing quality agricultural labels at the EU level as well as consumers of national marketing quality labels and trademarks are familiar with the labels, whether the quality labels are sufficiently commercially promoted and how it influences consumers buying preferences. Qualitative research was conducted by interviewing Assistant Minister at Ministry of Agriculture and Deputy Head of City Office for Agriculture and Forestry at City of Zagreb in order to analyse the main ideas behind creation of product quality labels, major problems, promotion issues and other relevant information which can contribute to better understanding of branding such products and increase awareness and consumption of Croatian original agricultural products.

4.1. Quantitative data analysis

One of the major research results implicates that the origin of the agricultural products is considered as very important amongst Croatian consumers. Majority of the respondents (87%) finds origin of the product very important while at the same time 79,5% of them are not aware of quality labels and trademarks of agricultural and food products in Croatia. 77,5% of the respondents consider products bearing quality labels more reliable than those without, especially on the EU level. Only 2.6 % of the respondents agree with the statement that Croatian products bearing quality labels are promoted sufficiently, 61,5% do not agree and 35,9% agree that there is a need to improve promotional activities. The response indicates that the promotion of such products is not sufficient in spite of the fact that consumers are willing to pay even higher prices for quality (74,9% responses). The awareness of consumers about specific agricultural products labelled with designated origin of Croatia varies from 22,6% (Meat of Croatian Farms), 45,2% (Eggs of Croatian Farms) to 71% (Zagreb fresh cow cheese) and 77,4% (Zagreb Cherry). The research shows that when it comes to specific local or national product labelled by its name, respondents have low to moderate awareness about it, but they do not have specific knowledge about quality labels and their differences, quality trademarks and certified quality agricultural products. They don't have enough confidence in product origin, weather there was chemically treated soil or to which extent is the environmental protection applied in process of food production. Some of the respondents encountered purchasing products of designated origin; Smoked meat from Međimurje County (10,30%), Ham from island Krk (17,2%), Kulen from Baranja (27,6%), Ham from Drniš (31%), Turkey from Zagorje (34,5%), Potato from Lika (55,2%), Ham from Dalmatia 72,4% and Kulen from Slavonia 75,9%. The results show that some very popular traditional Croatian food products are known by consumers but there is still room for increasing consumption and awareness of their quality labels. Respondents do not relate traditional food products with certified quality perception.

4.2. Qualitative research results

According to interview conducted with Assistant Minister at Ministry of Agriculture doc.dr.sc. Jelena Đugum who is in charge of quality labels for agriculture and food production authors identified that European quality labels are mechanisms of informing guaranteeing consumer's high level of quality of traditional products with known, local origin. The Ministry of Agriculture is monitoring the increase in production of products certified as protected designations of origin, protected geographical indications or guaranteed traditional specialties based on the Certified Product Conformity Certificates issued. A significant increase in production is seen in those products produced by larger producers, which also have the possibility of continuous production throughout the year. When it comes to seasonal products and small producers, especially family farms, this growth is somewhat smaller. In any case, the increase in production points to increased

demand for quality-labelled products. In regards to importance of quality, dr.sc. Đugum states that it is certainly the most important factor for the competitiveness of the market, and today there is a large number of similar products being offered to consumers. For this reason, it is very important that manufacturers awaken the awareness of the importance of various product certification systems that guarantee consumers the proven quality and added value of the product. Likewise, providing additional information on product quality to the consumer is one of the solutions to achieve market competitiveness. An excellent example of adding value to a product and creating its competitive edge in the market is product certification through EU quality systems for agricultural and food products, i.e. through protected designations of origin and protected geographical indications and guaranteed traditional specialties. Such products are labeled on the market with special signs that provide consumers with security and send a message to buy a value-added product. Consequently, they achieve a better position compared to competing products and fall into a higher price category. Following issue discussed was the importance of branding such products and it was said that the first Croatian agricultural and food products whose names are protected by original or protected geographical indications are registered at EU level only in 2015, meaning that such products are on the market labelled with the appropriate mark only for past two years. At the same time of accomplishing European registration for products, the Ministry of Agriculture has started with promotional activities aimed at the promotion of protected products in order to increase consumer awareness, as well as the significance of the labels on particular products. By involving producers in various sales and exhibition events as well as printing of many promotional and educational materials, they are working together with manufacturers on the recognisability of products and labels. Dr.sc. Đuman is convinced that consumers in the European Union know these quality marks, especially consumers from those Member States that have a significant number of protected products, such as Italy or France. The same has been evident by producers from Croatian tourist regions who say that many foreign tourists are buying quality label products since they are aware of the significance of the label itself and they are aware that they buy a local quality product. The possibility to get protected quality label is primarily intended for groups of manufacturers, therefore the name protection requirement can only be submitted by a group, except exceptional individual manufacturer, in case it can prove that it is also the sole producer. At the national level, the product name protection procedure is initiated by submitting a request to the Ministry of Agriculture. In addition to regular controls subject to all products placed on the market, products labelled with one of the quality system labels or protected designations of origin, protected geographical indication or as a guaranteed traditional specialty, are additionally controlled by an authorized control body to identify whether the product has been manufactured in accordance with the requirements of the Product Specifications. For each protected product the Specifications are published on the Ministry of Agriculture web site which gives consumers opportunity to obtain all information about production methods and specific product features.
Another valuable input to this research paper was the interview conducted with Deputy Head of City Office for Agriculture and Forestry at City of Zagreb, Mr. Luka Čuljak who considers that protection with a special guarantee seal ensures unreserved quality and the preservation of the native autochthonous product on the markets of the City of Zagreb. When it comes to fresh cheese, the farms are also linked to a themed cheese road that will affect conservation of rural areas in the vicinity of Zagreb. It is extremely important to label products to make it easier for consumers to identify and decide which product to buy. Product can be branded as a stamp (as in the case of a Zagreb puslek) or by a warranty stamp, which gives consumers some guarantee of the origin of the product and its quality. But labelling itself is not enough unless the product is not continuously promoted. The branding of trademarks started in late 2013th and during 2014th. According to brand Zagreb fresh cow cheese manufacturers claim that they have no problems with placement, but their production capacities are limited to the size of agricultural land process, the stalling capacity (hence the number of heads), but also their age and eventual successors. Therefore, in some farms, the production has somewhat increased, but with quality labelling it gained added value which does not necessarily affect production growth but the controlled quality and price of the product as well as

easier, faster and cheaper placement (especially if cheese is delivered at consumer's doors). In 2016, the association reported to the Public Contracts for Co-financing of Agricultural Programs/Projects for the Priority Area of Promoting and Popularizing Traditional Values of Rural Space and Sustainable Development for the Public. The Association "ZG Cherry" from 2013th to 2014th has approved and paid a total of 72.000 kunas, and in 2015 and 2016 the association did not appear in the tenders, but assistance was provided during the organization of the Cherry Days manifestation. Producers have been granted grants through tenders for aid funds (in the period from 2011th to the end of 2015th, producers of cherries were granted 2,293,322.00 kunas for various measures of conservation, construction of new plantations, procurement of networks, infrastructure projects, etc. From 2016th they supported producers with funds aimed to primary production. "Strawberry purgerica" association was granted 50.000 kunas in 2013th for organisation of the Strawberry Days manifestation. Producers have received through tenders for aid funds (in the period from 2011th to end of 2015th, as well as through different measures for irrigation, purchasing new greenhouses the funds of 3,461,624.00 kunas. During the year 2015th, there were many advertising and PR activities in Croatian media in regards to ZG sirek; 182 reports were published on 62 different Croatian internet portals, 41 in 18 radio stations, 20 in 8 Croatian prints and 16 in 7 different Croatian TV stations. There were 7 promotional events, 4 promotional short films were recorded, promotional campaign on social networks (Facebook profile, Facebook page, Twitter) was conducted. Continuous promotion followed during the year 2016th too. Due to the nature of the association as well as the cheese products' points of purchase, the campaign is primarily directed to the City of Zagreb and the Zagreb County.

5. Conclusion

Consumers of agricultural products would prefer purchasing products bearing the European Union quality marks or national marketing labels, although they are unaware of what they mean by the quality standards. The origin of food-based agricultural products greatly influences purchasing decisions. Survey data revealed that 79.5% of respondents were not familiar with quality labels of agricultural and food products. Only 2.6% of respondents indicated that products with quality labels were promoted sufficiently. The research has shown that most respondents are familiar with local quality labels such as "Zagreb Cherry, Strawberry purgerica, Zagreb puslek" or "Zagreb fresh cow cheese", and it is recognized by more than 70% of the respondents. Due to tradition and food culture, Croatian consumers do recognize national products but they do not know enough about quality labels, origin of the food, their production, the process of soil preparation, soil treatment and environmental protection, etc. The promotional activities conducted by official bodies aimed to increase awareness about the importance of quality but it still needs to be improved, more focused on the target market but on the broader level; not only Zagreb City area. Only 30% of the respondents confirmed that they heard about the quality trademarks of agricultural and food products "Protected Designation of Origin and Protected Geographical Indication". Consumers are aware of agricultural and food products on the national level, but not due to quality labels and its promotion. Consumers are ready to pay higher price for a product that is produced under controlled standards. However, agricultural and food products quality trademarks at the European Union level are not sufficiently identified by Croatian consumers too, which leads to the conclusion that the marketing activities of agricultural and food product holders of quality marks at European level should be adapted to the domestic consumer. There should be continuous effort and brand promotion amongst entire population of Croatian consumers.

REFERENCES

Dentoni, D., Gow, H. (2009): ***The Role of Umbrella Brands for. SMEs' International Market Entry: The Case of "Cellars of Canterbury***. IAMA 19, Annual Food and Agribusiness World Forum and Symposium, Budapest, Hungary

Državni zavod za intelekutalno vlasništvo. ***Oznake zemljopisnog podrijetla i oznak izvornosti.*** http://www.dziv.hr/hr/intelektualno-vlasnistvo/oznake/ (accessed 24 March 2018)

Državni zavod za intelekutalno vlasništvo. ***Zaštita intelektualnog vlasništva***, http://www.dziv.hr/hr/intelektualno-vlasnistvo/ (accessed 21 February 2018)

Hrvatska poljoprivredna agencija. ***Jaja hrvatskih farmi.*** http://www.hpa.hr/jaja-hrvatskih-farmi/ (accessed 24 March 2018)

Hrvatska poljoprivredna agencija. ***Med iz lijepe naše***. http://www.hpa.hr/sektori/sektor-za-registre-informatiku-i-potporu-poslovanju/odjel-za-trziste-i-marketing-poljoprivrednih-proizvoda/med-iz-lijepe-nase/ (accessed 24 March 2018)

Hrvatska poljoprivredna agencija. ***Meso hrvatskih farmi***. http://www.hpa.hr/sektori/sektor-za-registre-informatiku-i-potporu-poslovanju/odjel-za-trziste-i-marketing-poljoprivrednih-proizvoda/meso-hrvatskih-farmi/ (accessed 24 March 2018)

Hrvatska poljoprivredna agencija. ***Mlijeko hrvatskih farmi.*** http://www.hpa.hr/sektori/sektor-za-registre-informatiku-i-potporu-poslovanju/odjel-za-trziste-i-marketing-poljoprivrednih-proizvoda/mlijeko-hrvatskih-farmi/ (accessed 13 March 2018)

Hrvatska gospodarska komora. ***Croatian quality marks. Proizvodi***. http://znakovi.hgk.hr/en/proizvod/ (accessed 24 March 2018)

Keller, K. L. (2008): ***Strategic Brand Management: Building, Measuring, and Managing Brand Equity***, Prentice Hall, US

Kotler, P., Armstrong, G. (2014): ***Principles of marketing***, Pearson, US

Kotler, P. (2006): ***Kotler o marketingu, Kako stvoriti, osvojiti i gospodariti tržištem***. Poslovni dnevnik, Masmedia, Zagreb

Ministarstvo poljoprivrede. ***Kvaliteta hrane.*** http://www.mps.hr/hr/veterinarstvo-i-hrana/kvaliteta-hrane (accessed 13 March 2018)

Olins, W. (2008): ***Brendovi, marke u suvremenom svijetu***, Golden marketing. Tehnička knjiga, Zagreb

Wreden, N. (2010): ***Profitabilno brendiranje, kako povećati profitabilnost, odgovornost i održivost imena proizvoda,*** V.B.Z d.o.o., Zagreb

Prof. Robert Idlbek, PhD
Polytechnic of Požega
Vukovarska 17, 34000 Požega
E-mail address: ridlbek@vup.hr

Vjeran Blašković, journalist
E-mail address: vjeran.blaskovic@gmail.com

THE USE OF BLOCKCHAIN TECHNOLOGY IN THE DEVELOPMENT OF DECENTRALIZED ADVERTISING

PRIMJENA BLOCKCHAIN TEHNOLOGIJE U RAZVOJU DECENTRALIZIRANOG OGLAŠAVANJA

ABSTRACT

Internet advertising is facing increasing challenges, whichforces companies and brands to raise awareness of the importance of the userexperience. Aggravating advertising circumstances are represented by omnipresent fraudulent campaign execution reports, high consumer disapproval for current internet advertising models, various types of hacker attacks through internet ads, and the like. All this entails distrust of the company by the quality, reach and influence of advertising on the internet.

This paper will show the way of online marketing analytics presentation that was conducted in one Slavonian informative internet portal. In addition, it will show the issues arising from creating an analytics of running campaign that would be more transparent, clearer and simpler to measure.

The research methodology consists of: (1) analysing the collected transactional data from an ad server, and (2) analysing the amount of data transferred regarding the displayed ads. This analysis is designed to study the proportion of useful content for a user with respect to marketing related content and the content that reduces the quality of overall user experience.

Conclusion of data analysis shows that the current technology on which the advertising industry is based, faces increasing problems. Tosolve these problems, it is necessary to significantly change the way the user perceives advertising and to take advantage of other technologies and manage user attention.

Keeping in mind the problems mentioned above, the vision and opportunities of online marketing will be highlighted with an emphasis on blockchain technology. Blockchain, a new technology known as the basis for the development of crypto currencies, also offers many other innovative solutions and services with added value in all industries, including marketing. Blockchain has the technological potential to decentralize existing advertising patterns, from which users (consumers), publishers (authors, content creators, influencers) and advertisers (brands) can benefit.

The paper will show the effects of blockchain technology on online advertising processes and the expected models of further development of advertising and marketing industries based on distributed applications and innovative solutions offered by this technology.

Key words: *advertising, blockchain, marketing, campaign analytics*.

SAŽETAK

Oglašavanje na internetu suočava se sa sve većim izazovima koje pred poduzeća i robne marke postavlja povećanje svijesti o važnosti korisničkog iskustva (userexperience). Otežavajuće okolnosti za oglašavanje predstavljaju sveprisutno lažiranje izvještaja o izvršavanju kampanja, velika nezainteresiranost potrošača za dosadašnje modele oglašavanja na internetu te razne vrste hakerskih napada putem internetskih oglasa. Sve to unosi nepovjerenje poduzeća prema kvaliteti, dosegu i utjecaju oglašavanja na internetu.

U radu će biti prikazan način predstavljanja analitike provedene online marketinške kampanje na jednom informativnom slavonskom internetskom portalu te problematika koja proizlazi iz izvještavanja o realizaciji kampanje koja bi za investitora bila transparentnija, jasnija i jednostavnije mjerljiva.

Metodologija istraživanja sastoji se od: (1) analize transakcijskih podataka prikupljenih iz baza podataka poslužitelja za oglase (ad server), te (2) analize količine prenesenog podatkovnog sadržaja vezanog uz prikazane oglase. Navedena analiza napravljena je s ciljem istraživanja omjera korisnog sadržaja za posjetitelja portala u odnosu na sadržaj vezan uz marketing, odnosno sadržaj koji korisniku smanjuje kvalitetu iskustva korištenja web sjedišta.

Analiza predstavlja osnovu za zaključak kako je tehnologija na kojoj se temelji oglašivačka industrija današnjice suočena sa sve većim problemima. Za rješenje tih problema potrebno je znatno izmijeniti način percepcije oglašavanja te iskoristiti druge tehnologije za privlačenje pažnje korisnika.

Kao mogućnost rješenja navedenih problema bit će prikazana vizija i mogućnosti razvoja online marketinga s naglaskom na blockchain tehnologiji. Blockchain, nova tehnologija poznata po tome što čini bazu za razvoj kriptovaluta, nudi i mnogo drugih inovativnih rješenja i usluga s dodatnom vrijednošću primjenjivih u svim industrijama pa tako i onoj marketinškoj. Blockchain ima tehnološki potencijal decentralizirati dosadašnje obrasce oglašavanja od čega najveću dobrobit mogu imati korisnici (potrošači), izdavači (autori, kreatori sadržaja, utjecajnici) i oglašivači (brendovi).

U radu će biti prikazani utjecaji blockchain tehnologije na procese online oglašavanja te očekivani modeli daljnjeg razvoja industrije oglašavanja i marketinga temeljeni na distribuiranim aplikacijama i inovativnim rješenjima koje navedena tehnologija nudi.

Ključne riječi: *oglašavanje, marketing, blockchain, analitika kampanje.*

1. Introduction

"Attention" is a deficit resource that advertisers want to manage. Because of the "attention" of the user, an unfavourable situation has arisen where neither users, advertisers nor content creators are satisfied. An increasing percentage of content-related advertising on the web site has an adverse effect on the users because of the excessive amount of content that distracts them and reduces their user experience due toslower content loading to a computer or mobile device. Furthermore, mobile devices also have a considerable processor load, which is manifested with shorter battery life. All of this has a negative impact on user experience and therefore users increasingly resort to installing ad blockers.According to BusinessInsider (2017) statistics, a strong increase in the number of users installing ad removal software has been recorded. This technology started to be used more strongly in 2014, and in 2016, it has grown by almost 40%. Its significant growth continued in 2017, when more than 94% of mobile device users in the Asian countries had blockers installed. Users mostly justify their decision to install the software by security concern (30% of users), content upload speed (16%), and excessive amount of ads (14%). According to internet site PageFair (2017), in 2016, 22% of internet users used ad blockers.

Using ad blockers significantly enhances user experience, but also reduces advertisers' ability to achieve profit. Due to that, content creators (publishers)cannot achieve a positive cash flow and the possibility of monetizing quality content has declined.To create a positive cash flow, content creators further increase the amount of ad slot on the web pages, which further increases the need for band width and reduces customer satisfaction. This creates an "perpetual circle" in which neither the users, nor the advertisers, nor the creators of useful content are happy.

Publishers on the internet are constantly finding new ways to monetize the original content they produce. One of three advertising models (Pearson, 2017:406; Schneider, G.P., 2011: 187): CPM (Cost Per Mile - advertiser pays for impressions in 1,000-unit lots), CPC (Cost Per Click - advertiser pays prenegotiated fee for each click an ad receives), and CPA (Cost Per Action - advertiser pays only for those users who perform a specific action) are most often offered to advertiser buyers.Often the advertiser's problems arise from mistrust of statistics, i.e. impressions or clicks. Because of this, publishers in various ways provide insight into daily statistics, which should be transparent and clear. Furthermore, due to the advertiser's distrust, it is common practice to sell advertising spaceaccording to days, i.e. situations when during a certain time period (for example the whole day) banners do not rotate, and the same ad is present the whole time.

Despite the transparent approach, advertising on the internet is not completely devoid of data forgery. In the process of advertisement from the client to the advertising channels, it is possible to have several intermediaries involved in campaign production and execution, and therefore increases the possibility of compromising actual indicators and effects of the campaign. Negative impacts can also be intentional clicks (without interest, programmed "bots") on ads publisher by any publisher or competitor(publishers and advertisers), a practice that aims at harming the market competition.

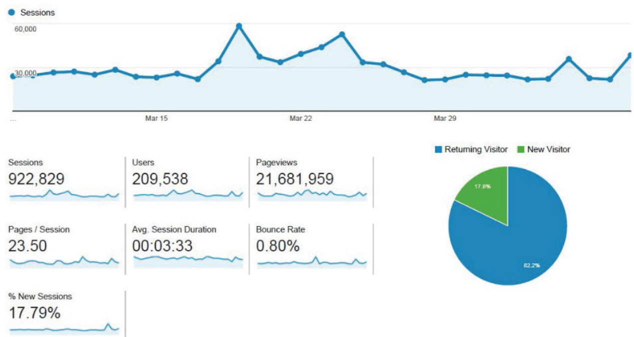
Such abuses are possible with both digital inventory lease models - CPC and CPM. For this reason, publishers and advertising networks are fighting fraud using different means and models, including collecting user data and his/her IP address, trackers, and similar private and thus legally protected data.

Readers looking for original and interesting content always strive and want this content to be free, and preferably with as little of content unnecessary to them as possible –ads. This is also one of the major challenges of digital marketing and advertising in general - how to reconcile the interests of content publishers for monetizing their content, advertisers who want high CTR and users who would like to consume content without ads and "disturbances" by the advertisers.

2. Ad Companies’ Data Analysis

The scientific method of content analysis was used to collect primary data. The source of data is an information system containing accurate information on marketing campaigns of publishers by the local news portal in Slavonia. The selected timetable is one month. The observed period, according to Google Analytics reports, does not differ significantly from the number of visits from measurement conducted each month.

***Figure 1** An example of a Google Analytics Result Report for an observed web destination (March 2015)*



Source: authors

Analysed data is downloaded from the "ad server" database, i.e. digital services that organize, monitor, and optimize digital ad campaigns. According to Laundon, KC, and Traver, CG (2017: 163), the ad servers serve to upload and administer digital marketing ad campaign performance on web sites and track data for each campaign and the ads that make it. The above-mentioned digital services analyse transaction data, such as the amount of impressions and clicks on individual ads in the campaign. These data advertisers and marketing strategies can provide valuable causal links that can be utilized in further refinement and optimization of campaign performance. Publishers use the servers to organize digital campaigns, as well as to verify the performance of the leased advertising model. Depending on a business agreement, publishers provide access; editing and campaign set up on the ad serverto clients and thus build the advertiser's trust.

The analysed Publisher sold the ad placementaccording to both lease models: CPC and CPM, as well as the lease model in days that made up more than 80 percent of total ad placements sold. Based on the data obtained, the ad server calculated CTR (Click Through Rate), which represents a measure of the performance of a digital campaign. CTR is calculated according to the following formula:

$$CTR = (\text{number of clicks / number of impressions}) * 100$$

Thus, CTR represents the ratio of the total amount of impressions and the amount of ad clicks. Depending on the type of web campaign, a 2% CTR is considered a success, and in the observed period (February 2015) the average CTR for the whole of Croatia was 0.09 percent[1].

2.1. Ad campaign performance analysis

In January 2015, a total of 12 marketing campaigns were conducted through this website, and marketing data were analysed for each campaign. With the use of ad server technology, a total of 5,492,670 ad impressions with 5034 clicks was measured, which is an average CTR of 0.13 percent for all observed campaigns.

[1]according to: Google Rich Media Gallery (2018) http://www.richmediagallery.com/learn/benchmarks (accessed 19 February 2018)

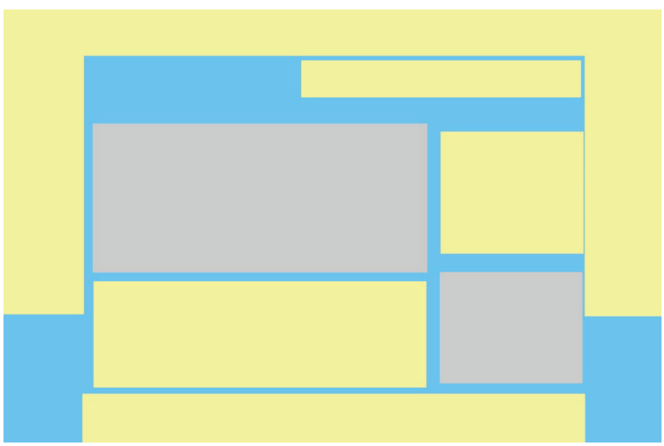
***Table 1** CTR analysis for conducted marketing campaigns*

	Impressions	Clicks	CTR%		Impressions	Clicks	CTR%
Campaign 1	229959	356	0.15	Campaign 7	348219	487	0.13
Campaign 2	34297	27	0.07	Campaign 8	951899	226	0.02
Campaign 3	315493	132	0.04	Campaign 9	5947	4	0.06
Campaign 4	46958	41	0.08	Campaign 10	232299	78	0.03
Campaign 5	553781	364	0.06	Campaign 11	44228	83	0.18
Campaign 6	90922	271	0.29	Campaign 12	148299	169	0.11

Source: authors

For the purpose ofanalysing the relationship between the advertisement part of the content of the observed news portal and the advertisement part of the content used, we used a screenshot of the portal created on February 6, 201. The same for the mentioned portal is also available at https://web.archive.org. When a design template sketch is made, it looks like Figure 2.

***Figure 2** An overviewof the relationship between advertisement and original content*



Source: authors

The illustration shows the title screen of the observed portal, i.e. the surface seen by the user on his/her screen during his/her visit. Yellow colourrepresents surfacescontaining ads, while greyrepresents the original content that attracted the visitor to visit the page. The surface of the ad (yellow part) in the overall surface 41.9%, and the original content surface (two grey parts) which attracted the visitors (part containing local news) is 19.7%. The rest of the content (38.4%) refers to a space that is not intended for publishing content (logos, images, and other graphic elements).

The publisher divided the inventory into the zones, whose showcase is monetised via different models, i.e. is sold to potential advertisers. Using ad server, data was collected for impressions (number of ads on the user's display) and clicks of all zones. This data is presented in the following tables.

Table 2 *Web site zone analysis*

Zone	Impressions	Clicks	CTR%		Zone	Impressions	Clicks	CTR%
D1	776806	8937	1.15		M1	191443	416	0.21
D2	959595	6739	0.70		M2	175785	462	0.26
D3	431062	377	0.08		M3	878300	226	0.02
D4	433999	974	0.22		M4	858802	461	0.05
D5	431166	302	0.07					
D6	618158	521	0.08					
D7	617135	949	0.15					

Source: authors

The analysis of these data shows the lack of interest of web site visitors for ads placed through this media. Much of the advertising space did not interest visitors, although it takes up a significant amount of space on the web itself. The data analysis did not take into account that a part of the user accidentally clicked on a particular ad that generates higher CTR, and these users return to the initial portal page after opening that new page.

2.2. Analysisof the amount of uploaded data content related to displayed ads

According to the average data collected on the size of displayed ads in kilobytes (kb) on ad zones, it is possible to calculate the amount of data used to show ads to users. This data represents the specific cost to users generated by data transfer. Thisparticularly applies to users who access the web site via mobile internet, which is generally more expensive method of accessing content than the "fixed" internet connection.

Collected data can be grouped into two basic groups, i.e. to whom it is displayed, so the used bandwidth on the ads is divided into desktop and mobile traffic. The zones marked from D1 through D7 are displayed on desktop computers, and the mobile zones marked from M1 through M4 are displayed exclusively on mobile devices in a specially-adapted application (mobile version of the portal).

Customers on mobile devices could select and run desktop versions of the portal, in which case they would be shown ads adapted for desktop version, which significantly increased the amount of data transfer, and thus the cost generated by displaying the ad.

Table 3 *Desktop Advertising Traffic - February 2015*

Zone	Impressioncount	Averagebannersize (kb)	Total bandwith (GB)
D1	776806	42,9	31,781
D2	959595	16,1	14,733
D3	431062	86,3	35,477
D4	433999	64,1	26,530
D5	431166	58,65	24,116
D6	618158	61,2	36,078
D7	617135	45,05	26,513
		SUM	195,231

Source: authors

Table 4 *Mobile Advertising Traffic - February 2015*

Zone	Impressioncount	Averagebannersize (kb)	Total bandwith (GB)
M1	191443	21,75	3,970
M2	175785	21,75	3,646
M3	878300	21,75	18,218
M4	858802	21,75	17,813
		SUM	43,648

Source: authors

From the obtained data, it is possible to conclude that the amount of data that is supplied to the user along the basic or useful content is a significant overhead, which negatively affects the user experience. A user, who has the ability to receive the same or similar content from another source, with a better proportion of useful and ad content, will choose the one that is more favourable to him/her. It is certainly interesting how the overall amount of data transmitted via the mobile platform is over 43GB. Part of the mobile traffic is consumed by connecting to wireless WiFi so that the total amount is considerably smaller, but the considerable processing power needed to download, process, and display ad content negatively reflects the battery life of mobile devices, which needs to be considered.

3. Blockchain in online marketing

From the processed data it can be clearly concluded that internet advertising in the current format has significant problems that reduce user experience. Part of the problem is related to a large amount of downloaded data that has a negative impact on internet speed and battery life of the device consuming content and part is related to the price of internet traffic. Another problem are numerous adswhich are not sufficiently well-targeted to the user, i.e. the user does not recognize himself/herself in the ads and therefore either does not consume their bids, and at the same time users ignore those ads which could really be targeted at them.According to Infolinks (2013), over the past few years internet users have developed the so-called "banner blindness", i.e. the ability of the brain to give less importance to those website zones where the ad is expected.

Bearing in mind the aforementioned problems and the ever-present struggle for the "attention" of the user, one of the solutions is the mechanism for online advertising based on blockchain technology. The aforementioned advertising technology solution ("ad- tech") would provide benefits to all market chain stakeholders (Brave Software, 2018: 3):

- for Users: strong privacy and security when viewing advertisements, improved relevance and performance, and a share of tokens,
- for Publishers: improved revenue, better reporting, and less fraud,
- for Advertisers: less costly customer attention, less fraud, and better attribution.

Blockchain technology concept is based on symmetric and asymmetric cryptographic mathematical algorithms and allows the creation of completely new types of distributed applications (Judmayer et al., 2017, 24). At this time, the most popular applications based on blockchain technology are transfer applications – Bitcoin and Ethereum.These technologies are explained in detail in many professional and scientific papers, but the basic idea is to create a value-sharing mechanism based on the absence of central authority (for example banks, organizations or databases).Distributed applications based on this technology enable easy and fast payment, i.e. transfer of value from one location to another, regardless of distance, without a central place to approve the transaction and guarantee its implementation. The idea of decentralization under these rules is currently a powerful driver for increasing the quality and accessibility of content available on the internet in many industries, especially the entertainment and publishing industry (Swan, M., 2015: 52).

Given the strong development of distributed applications and the perception of online advertising issues, blockchain can be considered a turning technology that will change the way advertisement is executed and the ways in which the ads are purchased, delivered, measured, and evaluated. According to Newman, D. (2017), this means that it will be much simpler to be able to: a) ensure the trust that users actually saw the ad; b) avoid the mediator between the advertiser and the user who consumes the ad; c) better target the desired audience; and d) to achieve a cost-effective, transparent and clear way of transferring value among stakeholders in the process of digital marketing - users, publishers, and advertisers.

Several technological initiatives address the above-mentioned issues in various ways. Currently the most promising is BAT (Basic Attention Token)[2]_ftn2, a service based on a newly-created internet browser (Brave) that implements the tracking technology for tracking users as well as unwanted ads. The technology consists of an advanced and anonymous user tracking method and introduces a brand new concept of rewarding the user who wants to receive the ad, as well as monitoring whether the "impressions" were actually shown to the user, i.e. avoiding the so-called "near impressions" (Sapp, S. et al, 2017: 2). The aforementioned award can be used by the user to directly sponsor the content (web pages or articles) he considers to be of quality.

4. Conclusion

As shown in the text above, the online marketing industry is facing ever-increasing problems. An increasing amount of ads on websites has created a need for technology development that would protect the user from too much of the displayed ads. In addition, the users themselves have adapted

[2]Brave Software (2018):**BasicAttentionToken: Blockchain Based Digital Advertising**, https://basicattentiontoken.org *(accessed 3 February 2018)*

their habits of reading web content in ways that they do not even notice the ads placed in standard places, i.e. places traditionally designed for ads. Quality contents available on the web have a significantly reduced monetization if they do not use ad slots and banners for their funding. That creates the need for development of new technologies that are able to solve this problem.

Blockchain, as the basis for distributed applications offers certain technological solutions that will be possible in the future, precisely because of the simple and fast ability to transfer values from one place to another. This is why technology is created which is able to provide the user with an environment in which the user is able to consume marketing material, if he/she wants it, and to be rewarded for his/her engagement and "attention". The aforementioned award can be used by the user to reward contents that he or she is spending the most timeon, or the content they consider to be of quality. This would significantly increase the interaction between users and advertisers, without additional costs and intermediaries.

REFERENCES

Brave Software (2018): ***Basic Attention Token***: Blockchain Based Digital Advertising. https://basicattentiontoken.org/BasicAttentionTokenWhitePaper-4.pdf (accessed 11 January 2018)

Cortland, M. (2017): 2017 AdBlock Report. https://pagefair.com/blog/2017/adblockreport/ (access 20 Februaty 2018).

Infolinks (2013) ***Beating banner blindness: what the online advertising industry can do to make display matter again***. http://resources.infolinks.com/static/eyetracking-whitepaper.pdf (accessed 8 January 2018)

Judmayer, A., Stifter, N., Krombholz, K., Weippl, E. (2017): ***Blocks and Chains: Introduction to Bitcoin, Cryptocurrencies, and their Concensus*** Mechanisms, Mogan&ClayPool.

Newman, D. (2017): ***4 Ways Blockchain Will Transform Digital Marketing And Advertising***, CMO Network, https://www.forbes.com/sites/danielnewman/2017/11/14/4-ways-blockchain-will-transform-digital-marketing-and-advertising/#3271b93a3fb7 (accessed 18 January 2018)

O'Reilly, L (2017): Ad blocker usage is up 30% — and a popular method publishers use to thwart it isn't working, http://www.businessinsider.com/pagefair-2017-ad-blocking-report-2017-1 (accessed: 20 February 2018)

Sapp, S., Vaver, J., Schuringa, J., Dropsho, S. (2017): ***Near Impressions for Observational Causal Ad Impact***, Google Inc. https://pdfs.semanticscholar.org/ab6b/21c21b9914f3f4ae11a1d35c7fba0bf74d2b.pdf (accessed 25 February 2018)

Swan, M. (2015): ***Blockchain: Blueprint for new Economy***, O'Reilly Media.

Andreja Katolik Kovačević, PhD
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod, Hrvatska
Phone: +385 35 492800 Fax: +385 35 492804
E-mail address: akatolik@vusb.hr

Vesna Vučemilović, PhD Student
PP Orahovica, 33515 Orahovica, Hrvatska
Stjepana Mlakara 5
Phone: +385 33 638640 Fax: +385 33 673575
E-mail address: vesna.vucemilovic@yahoo.com

Ivona Blažević, PhD Student
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod, Hrvatska
Phone: +385 35 492800 Fax: +385 35 492804
E-mail address: iblazevic@vusb.hr

MARKET SEGMENTATION FOR ROAD TRANSPORTATION SERVICES

SEGMENTACIJA TRŽIŠTA ZA CESTOVNE TRANSPORTNE USLUGE

ABSTRACT

Market segmentation is process of dividing total market on separate groups of customers having unique needs, characteristics or behavior which could demand various products or services i.e. marketing mix and is an essential part in process of creation marketing strategy. It is crucial to address marketing efforts to selected market segments regardless whether is it a consumer goods market or business market. Variables used for business market segmentation are same as for consumer goods market but few additional may be used such as purchasing approach, situational factors, operating variables and personal characteristics of the buyer. Transportation services are important part of integrated logistic activities because they connect various parts of integrated logistics and provide its effective functioning. Transportation services are specific because producer delegates a part of the distribution process on the intermediaries to achieve higher efficiency.
The theoretical part deals with the conceptual definition of the market segmentation and transportation services as part of the integrated logistics. Practical part is based on research conducted in Poland on sample of 820 companies regarding their demand for road transportation services. Primary data were collected through interviews and survey and analyzed by combination of quantitative and qualitative methods such as analysis, synthesis, comparison and classification. Quantitative methods used in data analysis are standard statistical methods.
Primary aim of this research is to contribute in development of market segmentation for road transportation services using appropriate number and type of variables in segmentation process. Total market was divided on segments by industry branch and each market segment was evaluated with seven variables. According to collected data road transportation services providers were able to estimate market potential of each market segment.

Key words: *integrated logistics, transportation services, market segmentation, marketing strategy.*

SAŽETAK

Segmentacija tržišta je proces podjele ukupnog tržišta na zasebne skupine kupaca koji imaju jedinstvene potrebe, karakteristike ili ponašanje koje bi mogle zahtijevati različite proizvode ili usluge, tj. marketinšku kombinaciju i bitan je dio procesa stvaranja marketinške strategije. Od ključne je važnosti u rješavanju marketinških napora na odabranim tržišnim segmentima, bez obzira na to je li riječ o tržištu robe široke potrošnje ili poslovnog tržišta. Varijable korištene za segmentiranje poslovnog tržišta su jednake onima na tržištu robe široke potrošnje, ali se mogu koristiti i neke dodatne, kao što je pristup nabave, faktori situacije, operativne varijable i osobne karakteristike kupca. Transportne usluge važan su dio integriranih logističkih aktivnosti jer povezuju različite dijelove integrirane logistike i osiguravaju učinkovito funkcioniranje. Prijevozne usluge su specifične jer proizvođač prenosi dio distribucijskog procesa na posrednike radi postizanja veće učinkovitosti.

Teorijski dio bavi se konceptualnom definicijom segmentacije tržišta i transportnih usluga kao dijela integrirane logistike. Praktični dio temelji se na istraživanjima provedenim u Poljskoj na uzorku od 820 tvrtki u vezi s njihovim zahtjevima za uslugama cestovnog prijevoza. Primarni podaci prikupljeni su kroz intervjue i ankete i analizirani kombinacijom kvantitativnih i kvalitativnih metoda kao što su analiza, sinteza, usporedba i klasifikacija. Kvantitativne metode korištene u analizi podataka su standardne statističke metode.

Primarni cilj ovog istraživanja je doprinijeti razvoju tržišne segmentacije usluga cestovnog prometa koristeći odgovarajući broj i vrstu varijabli u procesu segmentacije. Ukupno tržište podijeljeno je na segmente po granama industrije, a svaki segment tržišta ocijenjen je s sedam varijabli. Prema prikupljenim podacima, pružatelji usluga cestovnog prijevoza mogu procijeniti tržišni potencijal svakog tržišnog segmenta.

Ključne riječi: *integrirana logistika, usluge prijevoza, segmentacija tržišta, marketinška strategija.*

1. Introduction

Market segmentation is process of dividing total market on separate groups of customers having unique needs, characteristics or behavior which could demand various products or services i.e. marketing mix (Kotler, at al., 2006, p.391). For consumer goods market segmentation is using basic groups of variables such as geographical, demographical, psychographic and behavioral variables (Kotler, at al., 2006, p.399).

Business markets can be segmented with already stated variables but also several other variables may be used. These are operating variables such as technology, user status, customer capabilities, second is purchasing approaches meaning purchasing organization, power structure, general purchasing policies, purchasing criteria, nature of existing relationship than third are situational factors which are urgency, specific application, size of order and last are personal characteristics such as buyer-seller similarity, attitudes toward risk and loyalty (Kotler at al., 2006, p.409).

Market segmentation can be a part of marketing research but also it may be one of the ways to implement company's marketing strategy.

The main purpose of market segmentation is to establish possibility of homogenizing heterogeneous market in a way which will enable company to choose market segments according to selected variables for which company has interest, whose demands will be able to satisfy and achieve profits for the company (Meler, 1992, p. 112).

According to Kotler there are five models for market segments selection. Single-segment concentration is the simplest because company selects only one market segment. Selective specialization considers selection of several market segments where each of them is objectively attractive and appropriate and therefore ensures diversification of company's risk. Product specialization is approach where company produces certain product for several segments. Market specialization is model in which company serves as many needs of a specific group of customers.

Last model is full market coverage when company serves all market segments with all products or services (Kotler, 2001).
Road transportation services market includes implicitly a set of relationships which arise from transportation services supply and demand on particular area. This market is a result of increasing needs of economy and society for road transportation services on the one hand and the development of all types of transportation (Šamanović, 1999, p.192).
Business logistics consider transportation as business activity which is in a same time an element of logistic system and enables transfer of goods through logistic and distribution system (Šamanović, 1999, p.133). Transportation is an important liaison between various parts of integrated logistic elements. It enables raw materials to reach warehouses and final products to reach customers (Bloomberg at al., 2006). Road transportation is the most flexible way of transportation because it can efficiently transport diverse types of products. Due to that there is vast competition between companies which provide road transportation services.
The primary focus on integrated logistics is to reduce client`s freights costs by identifying and eliminating unnecessary spending. Bloomberg at al define integrated logistic as process of defining buyers needs and desires; accumulating capital, material, people, technologies and information needed for satisfying this needs and desires; freight or service optimization through network created to meet the customer's requirements at the right time (Bloomberg at al., 2006, p.47).
Market research related to transportation services demands that special attention should be taken regarding needs of economy for transportation services, competition capacities, market share of specific transportation companies and types of transportation in total transportation, specific location of production and transportation companies, transportation services costs and prices, quality of transportation services, market specifics and features which differentiates one market from another, similarities and differences between particular transportation branches. Collected data through market research are the necessary foundation for planning and forecasting of transportation services (Šamanović, 1999, p.193).

2. Problem of Research

Primary aim of this research is to contribute in development of market segmentation for road transportation services using appropriate number and type of variables in segmentation process. Total market was divided on segments by industry branch and each market segment was evaluated with seven variables. According to collected data road transportation services providers were able to estimate market potential of each market segment.
This process is important part of business operations on the market where road transportation services providers already have business activities and especially when entering new markets. On present market, business activity can be improved and on new markets market segmentation is essential part of marketing research before entering the market. It can provide information for adequate marketing policies and help road transportation services providers to focus on market segments with medium and high market potential.

3. Research Focus

There were several reviews of the transportation mode choice and carrier selection literature. One of them was made by Meixell and Norbis (2008) which showed that interview, simulation and case studies methodologies are under-represented in previous research. Selviaridis and Spring (2007) identified in their review of third party logistics cost, service quality, reliability, flexibility and responsiveness as basic factors for alternate provider’s selection.
Keller (2002) emphasized importance of personnel who are in frequent contact with the external customer. There are differences between authors regarding number of selection criteria from rather limited number of variables to an extensive list. Some of frequently used variables in research are cost, loss and damage history of the carrier, reliability, reputation, quality of personnel, pricing flexibility, ability to handle special requests (Solakivi, T., Ojala, L., 2017).

4. Methodology of Research

4.1. General Background of Research

Market research was conducted to evaluate potential demand for road transportation services for different industries. Total market was first divided by industry covering eighteen different industries. In second step, each industry was researched through seven variables as market characteristics. Based on the collected data market potential for road transportation services was estimated. Research was conducted by using two methods. One was CATI method with structured questionnaire having offered answers. Same questionnaire was used for interviews with decision makers within the companies. Information used are primary data collected through personal structured interviews and CATI method.

4.2. Instrument and Procedures

Information used in this paper are primary data collected through market research conducted in Poland on sample of 820 companies regarding their demand for road transportation services. Primary data were collected by CATI method and 34 interviews with decision makers in the companies. Themes covered by research were primarily market segmentation by industry and market characteristics by industry such as current number of shipments per month, current situation within the industry, sources of information about transportation services, decision criteria for transportation company selection, current number of suppliers for road transportation services, frequency and customer satisfaction.

5. Data analysis

Collected data through interviews and survey was analyzed by combination of quantitative and qualitative methods such as analysis, synthesis, comparison and classification. Quantitative methods used in data analysis are standard statistical methods.

6. Results of Research

More than half of the respondents determine current situation in their industry as very good or good, less than ten percent believe the situation is bad or very bad and less than thirty present thinks that current situation is neither good or bad.

When choosing a supplier for their company, respondents primarily pay attention to the price. For majority of the respondents this is the most important criteria, especially for the companies with a small monthly volume of shipments.

The reliability of the transport services providers is second important and close to reliability is punctuality. Brand familiarity is last on the scale when decision criteria for transportation services providers are considered. Among other criteria are availability of vehicles, ability to monitor shipments, flexible payment terms and the overall flexibility of the transportation services provider related to shipment canceling or address change. More than fifty percent of small and medium enterprises send packages daily, more than twenty percent several times a week, and the remaining thirty percent several times a month.

The frequency of mailing is directly related to the number of shipments sent per month. Almost all companies sending more than hundred shipments per month are shipping every day. Companies sending less than twenty shipments a month send their shipments several times a month. Almost half of respondents (45%) have positive opinion about their current transport service provider and less than one third of respondents (30%) negatively evaluate their current or former transport service providers.

The rest of respondents (25%) had no opinion regarding this subject. The biggest problem with current transport service provider is punctuality. The most of respondents stated that contacts with

company representative and the internet are the most common sources of information about transportation services offering. Logistical magazines are not an effective communication channel with potential customers in the small and medium business sector.
Results for each industry showed that market potential for clothes and footwear producers is rather low. Considerable number of respondents (90,1%) are sending less than one hundred shipments per month and competition is intense especially in segment of small and medium enterprises. Price and punctuality are the most crucial decision criteria.
Furniture producers are estimated to have low market potential for small businesses and high market potential for large companies. This estimation is based on a fact that small and medium enterprises operate mostly locally and provide transportation services for themselves. Current number of shipments per month is between 21 and 1000 shipments for 73,1% respondents which is solid base for entering that market segment. That is confirmed with the fact that frequency of sending shipments is on dally basis or several times a week for 85,7% of our respondents.
Respondents from segment of food producers are estimated to have medium market potential as market segment. Demand for road transportation services in that segment is rather different for each company due to a fact that vast number of respondents have their own means of transportation. If we combine that with the fact that reliability is stated as the weightiest decision criteria for 42,9% of our respondents, then is organization which is based on own transportation rather expected. Nevertheless, current number of shipments is not that large because largest group of respondents (35%) is sending between 21 and 100 shipments per month. There is rather great deal of respondents which are not satisfied with current supplier of road transportation services because of problems such as delays, lost shipments and damaged goods. Only 30% of respondents are satisfied with current supplier of road transportation services.
E – commerce is market segment with high potential for road transportation services. Price and reliability are two decision criteria pointed out as the most important by our respondents. Frequency of shipments is very high, 100% of our respondents is sending shipments daily or several times a week. Only 35% respondents are satisfied with current supplier of road transportation services. The main problems are delays, damaged goods and lost shipments.

7. Discussion

There is numerous research regarding market segmentation for road transportation services with different number of variables for selection criteria. We selected rather small number of variables in our research and combined quantitative and qualitative methodology.
Results showed that cost is the most important selection criteria and reliability second. Sources of information about transportation services are mostly internet and contacts with company representative.
Therefore, special attention should be given to selection and education of personnel. Our research estimated market potential for several industries in category of small, medium and high market potential. We recommend further research of this topic by using interview as methodology in combination with case study.

8. Conclusion

Road transportation services are important part of integrated logistic. In process of strategic management of transportation services companies must answer on several questions. If they decide to delegate transportation on the intermediaries to achieve higher efficiency they expect to achieve certain benefits.
On the other hand, providers of transportation services when entering new markets must be aware of customers' expectations. To evaluate market potential, they should carry out market segmentation based on selected variables. In our research, we used as variables current number of shipments per month, current situation within the industry, sources of information about transportation services, decision criteria for transportation company selection, current number of suppliers for road

transportation services, frequency and customer satisfaction. Based on collected data each market segment was evaluated, and market potential was estimated as low, medium and high. In that process, several industries were pointed out as market segments with high potential.
Through market segmentation transportation services providers may focus on market segments with high potential and try to avoid mistakes made by their competitors. It is important to point out that competition between transportation services providers is strong and market segmentation is one of the ways to enter new markets in a successful way.

REFERENCES

Bloomberg, J. D., LeMay, S., Hanna, B.J. (2006): ***Logistika,*** Zagrebačka škola ekonomije i managementa, MATE, Zagreb

Keller, S. B. (2002): ***Internal relationship marketing: a key to enhanced supply chain relationships***, International Journal of Physical Distribution & Logistics Management, 32(8), pp. 649-668.

Kotler, P. (2001): ***Analysis, planning, implementation and control***, Mate d.o.o., Zagreb

Kotler, P., Wong, V., Saunders, J., Armstrong, G. (2006): ***Principles of Marketing***, Mate d.o.o., Zagreb

Meixell, M.J., Norbis, M. (2008): ***A review of the transportation mode choice and carrier selection literature***, The International Journal of Logistics Management 19 (2), pp. 183-211.

Meler, M. (1992): ***Marketing komuniciranje***, Ekonomski fakultet u Osijeku, Osijek

Selviaridis, K., Spring, M. (2007): ***Third party logistics: a literature review and research agenda***, The International Journal of Logistics Management, 18(1), pp. 125-150.

Solakivi, T., Ojala, L. (2017): ***Determinants of carrier selection: updating the survey methodology into the 21st century***, Transportation Research Procedia, Volume 25, pp. 511-530

Šamanović, J. (1999): ***Logistički i distribucijski sustav***i, Ekonomski fakultet Split, Split

Kristina Kobrehel, spec. oec., assistant, Ph.D. student
University of Applied Sciences Baltazar Zaprešić
V. Novaka 23, 10 290 Zaprešić (Croatia)
Phone: +385 91 568 2934
E-mail address: kristina.kobrehel@bak.hr

Ernest Vlačić, Ph.D., Professor
NOVAMINA Innovative Technology Center
Zagrebačka cesta 145a, 10 000 Zagreb (Croatia)
Phone: +385 98 330 140
E-mail address: ernest.vlacic@novamina.hr

Zlatko Barilović, Ph.D., Senior Lecturer
University of Applied Sciences Baltazar Zaprešić
V. Novaka 23, 10 290 Zaprešić (Croatia)
Phone: +385 98 665 162
E-mail address: zlatko.barilovic@bak.hr

INNOVATION AS A CATALYST OF THE CONTEMPORARY PUBLIC SECTOR STRATEGIC POSITIONING

INOVACIJA KAO KATALIZATOR U SUVREMENOM STRATEŠKOM POZICIONIRANJU JAVNOGA SEKTORA

ABSTRACT

Innovation plays crucial role in the private business sector, but its penetration into the public sector has only recently been clearly identified, articulated and applied. For conceptual reasons, the process of creating and diffusing innovation in the private sector differs from the public one, particularly when observed from the position of their inherent raison d'etre. Differentiation is primarily determined by a specific cultural framework that dominates in these two 'worlds'. Besides, the implemented typology of innovation in support of strategic goals by its intensity and scope in these two sectors differs as well. Contemporary strategic positioning in the public sector has recognized the importance of creation and introduction of innovative services (or products) in providing improved quality civil service and increasing the efficiency of the public sector operations. Therefore, the aim of this paper is to explore the theoretical background of the innovation process in the public sector with special focus on implementing conditions in the transition economy country, specifically the Republic of Croatia. For the purpose of responding the paper's leading research question, an empirical research based on a qualitative combined methodology targeting relevant public sector representatives has been created and conducted. The results are showing that the innovation intensity and scope in examined national public sector is significantly lagging behind the developed countries. However, currently ongoing innovation initiatives and activities, along with these in preparation/pipeline, in some organizations may indicate that the country is heading in the right direction, but their dynamics and scope is still questionable. Findings will undoubtedly contribute to a better understanding of the Public Sector Innovation within the examined national and even regional context.

Key words: *innovation, public sector, strategic positioning.*

SAŽETAK

Inovacijski proces za potrebe stvaranja inovacije je u privatnom poslovnom sektoru odavno poznat i provodi se kao takav, međutim isti se u javnom sektoru tek od nedavna jasnije identificira, artikulira i primjenjuje. Iz konceptualnih je razloga proces stvaranja i difuzije inovacije u privatnom sektoru značajno različitiji od javnog, posebno kad to promatramo iz pozicije njihovog prirodnog raison-d'etrea koji se primarno reflektira kroz različite strateške ciljeve koje si dionici dva sektora postavljaju. Diferencijacija u pristupu proizlazi iz različitosti specifičnog kulturološkog a time vezano barijerama koje se oponiraju procesu uspješnog provođenja i distribucije inovacije. U tom se smislu tipologija primijenjene inovacije, kada je u pitanju njeno služenje konačnim ciljevima, njen intenzitet i obuhvat u dva opisana sektora također razlikuje. Kroz suvremeno strateško pozicioniranje javnog sektora njegovi su dionici ipak prepoznali značaj inovativnog djelovanja, odnosno produciranja inovativnih usluga (ili proizvoda) za potrebe kvalitetnijeg razvoja civilnog društva ali i efikasnosti funkcioniranja samog javnog sektora. Stoga je cilj ovoga rada istražiti teorijsku podlogu procesa inoviranja u javnom sektoru, s posebnim osvrtom na inoviranje istog u uvjetima tranzicijske ekonomije, specifičnije u RH. Za potrebe dizajniranja ovog rada provedeno je kvalitativno istraživanje odabranih predstavnika javnog sektora, koji su pokretali i/ili provode aktivnosti koje se po kriterijima inoviranja mogu klasificirati kao inovacijske. Rezultati ovoga rada pokazuju da bez obzira što RH značajno zaostaje za razvijenim zemljama, aktivnosti u smislu inoviranja u javnom sektoru se primjetno intenziviraju. Pri tome se njihov smjer i cilj djelovanja mogu smatrati zadovoljavajućima, no upitan je njihov intenzitet i provedbena dinamika implementacije. Saznanja iz ovog rada će zasigurno doprinijeti boljem razumijevanju principa i procesa inoviranja u javnom sektoru (Public Sector Innovation) u specifičnom kontekstualnom nacionalnom okruženju.

Ključne riječi: *inoviranje, javni sektor, strateško pozicioniranje.*

1. Introduction

Researchers first began to examine Public sector innovation (PSI) in the 1970s, while serious study of innovation in the public sector is quite recent. It has an academic tradition stretching back 30 years at most; perhaps half of the time people have been looking at innovation and technological change in the private sector. The balance of effort has intensively swung in favour of the public sector only in the past decade, but regularly there is still significant more research effort spent on innovation studies in the private sector as compared with innovation in the public sector (Rivera et al, 2012). In the 1980s and 1990s, management research focused mainly on organisational change to reduce hierarchical structures and apply practices in use in the private sector. These changes were named New Public Management (NPM). The NPM and government reform later become a subject for academic study and was seen as a solution to a perceived lack of innovation in the public sector (Rivera et al, 2012).

Contemporary strategic positioning in the public sector (PS) has recognized the importance of creation and introduction of innovative services (or products) in providing improved quality civil service and increasing the efficiency of the public sector operations. Funded on such premise, the aim of this work is to explore the theoretical background of the innovation process in the public sector with particular focus given on operating conditions in the transition economy, specifically the Republic of Croatia. Thus the leading research question of this paper arises: what is the current level of PSI performing in Croatia, and what are the principal obstacles that are current initiatives are facing throughout their implementation.

For the purpose of creating this paper and answering the research question, a combined qualitative survey including focus group and semi-structured interviews instruments of relevant public sector representatives has been conducted which are introducing, or otherwise dealing with public sector innovation.

This paper is organised in five sections. Following this introduction section, the literature and theoretical concepts related to the public sector innovation are briefly discussed. Next third section contains description of employed research methodology. The fourth section deals with presentation and discussion upon results used to respond the research problem. Paper concludes with several practical recommendations how to stimulate and enhance the PSI procedures and its efficiency. Finally, the conclusions and implications of the study are laid out.

2. Theoretical background

There is a strong need for innovation in public sector as technology is advancing, needs of citizens are changing and expectations about public service government interventions are higher. Public tasks have become more and more complex and have developed into problems that are often too difficult to be solved by a single entity or include many different layers of complexity (Gascó, 2017).

There are some key words that are common to public sector innovation (PSI) definitions such as: new idea, public value and value for society, process of creating improving and implementing something new. In the continuation of the paper definitions of public sector innovation will be considered.

Chen et al (2015) defines PSI as the development and implementation of a novel idea by a PSO to create or improve public value within an ecosystem where public value is an intended outcome of PSI. Public sector organisations work within an ecosystem that include participation by citizens, civil society, public partners, private partners, users and internal members so improvement should be in the rights, benefits and welfare of citizens (Chen et al, 2015). Another definition of PSI is as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations (Daglio et al, 2014). Directorate-General for Research and Innovation in one report define PSI "as the process of generating new ideas, and implementing them to create value for society, or as 'anything new that works', and public sector innovation is about new or improved processes (internal focus) and services (external focus)" (European Commission and Directorate-General for Research and Innovation, 2013). De Vries's (2014) innovation in a public sector is defines as "the introduction of new elements into a public service - in the form of new knowledge, a new organization, and/or new management or processual skills, which represents discontinuity with the past". The following PSI definition comes from Australian National Audit Office (2009) which in some way encompasses the ideas of the previous definitions and it's defined as the 'creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in the efficiency, effectiveness or quality of outcomes. In the public service the driving imperative for innovation is the need to respond effectively to new and changing government and community expectations in an increasingly complex environment.

Innovation in the public sector can be divided into various types shown in the PSI typology table 1.

Table 1 *Typology of innovation in public sector*

Innovation type	Definition/characteristics	Authors
A new or improved service	- the introduction of a new service product or an improvement in the quality of an existing service product; health care at home; The introduction and delivery of new services to achieve organizational goals.	Koch and Hauknes, 2005; WB (2017); Chen, Walker and Sawhney, 2015
Process innovation	- a change in the manufacturing of a service or product, improvement of quality and efficiency of internal and external processes	Koch and Hauknes, 2005; De Vries et al., 2014;
Administrative innovation; administrative and organisational	- introducing new internal processes and practices to improve productivity/ reduce costs, for example the use of a new policy instrument, which may be a result of policy change; changes in the organizational structures and routines by which front office staff produce services in a particular way and/or back office staff support front office services	Koch and Hauknes, 2005; Australian National Audit Office, 2009; WB (2017)
System innovation	- a new system or a fundamental change of an existing system, for instance by the establishment of new organizations or new patterns of co-operation and interaction; new or improved ways of interacting with other organizations or knowledge bases.	Koch and Hauknes, 2005; WB (2017)
Conceptual innovation	- a change in the outlook of actors; such changes are accompanied by the use of new concepts, for example integrated water management or mobility leasing; the development of new world views that challenge assumptions that underpin existing service products, processes and organizational forms.	Koch and Hauknes, 2005; De Vries et al., 2014;
Radical change of rationality	- meaning that the world view or the mental matrix of the employees of an organization is shifting	Koch and Hauknes, 2005
Product or service innovation	- creation of new public services or products	De Vries et al., 2014;
Governance innovation	- development of new forms and processes to address specific societal problems	De Vries et al., 2014;
Policy innovation	- where the role of the public sector is to provide objective and reasoned advice, and options, to assist the Government's decision-making in relation to policies and programs; changes to the thought or behavioural intentions associated with a policy belief system; Stakeholders are introduced with new benefits and obligations for the organization as a whole.	- Australian National Audit Office, (2009); WB (2017); Chen, Walker and Sawhney, 2015
Implementing policies and programs	- delivering services to the Australian community efficiently and effectively	- Australian National Audit - Office, (2009);
Service delivery innovations	- new or altered ways of delivering to clients, or otherwise interacting with them, for the purpose of supplying specific public services	WB (2017)
Mission innovation	- The introduction of a new worldview, mission or purpose for the organization as a whole.	Chen, Walker and Sawhney, 2015
Management innovation	- New management practice, process, structure or technique to improve the organization's ability to further organizational goals.	Chen, Walker and Sawhney, 2015
Partner innovation	- The establishment of new partnerships to improve the organization's ability to further organizational goals.	Chen, Walker and Sawhney, 2015
Citizen Innovation	The establishment of new platforms to facilitate citizen collaboration to achieve organizational goals.	Chen, Walker and Sawhney, 2015

Source: proposed by author

Raipa and Giedraityte (2014) noticed that most barriers to public sector innovation are emerging in the context of political, economic, organisational and societal behaviour. A pan-EU survey among public officials and academics in 25 Member States has identified three types of drivers and barriers: internal factors, external factors and political factors. Human resources-related factors, such as education, training, incentives to innovation, management and leadership, bureaucracy, organisational structures and designs are the most important internal factors. Public-private collaboration, co-creation and involvement of service users, the existence of international good practices and rankings and national award schemes for public sector innovation are recognized as the most important external factor. The most important political factors are budget reductions and/or restrictions, funding, EU policy decisions, political support and laws and regulations (European Commission and Directorate-General for Research and Innovation, 2017). It is documented both in the literature and from practical experience that there are multiple barriers to innovation in public sector organisation that fall into four broad categories (European Commission and Directorate-

General for Research and Innovation, 2017): weak enabling factors or unfavourable framework conditions, lack of leadership at all levels, limited knowledge and application of innovation processes and methods, insufficiently precise and systematic use of measurement and data. Mulgan and Albury (2003) have identified various barriers to public sector innovation: delivery pressures and administrative burdens, short-term budget and planning horizons, poor skills in active risk or change management, no rewards or incentives to innovate or adopt innovation, technologies available but constraining cultural or organisational arrangements, over-reliance on high performance as sources of innovation, reluctance to close down failing programmes or organisations, culture of risk aversion. The European Public Sector Innovation Scoreboard (2017) points out that barriers to innovation are probably as important as the drivers: the lack of human or financial resources, regulatory requirements, lack of management support and lack of incentives for stuff.

In their research Rivera et al (2012) have determined that the e-government is the most widespread public sector innovation that enables citizens' online tax returns, e-healthcare and other. Most EU countries have started to employ ICT based PSI for restructuring projects, and to promote development of e-government services. For instance, a typical ICT project is digital identity card for citizens of Estonia, Austria and Malta, an e-signature for easier start-up registration in Poland and Bulgaria, followed by *opengov.gr* web portal in Greece which increased transparency of the employment process. Along with Romania and Spain, Greece has also successfully introduced the tax filling process or online tax payment. Except for e-government, ICT tools have began to use in healthcare where platforms for better interaction with patients or healthcare insurance cards are being developed. Estonia recorded savings and efficiency by introducing E-Healthcare, while Malta introduced online access to medical documents to patients and to doctors.

There are no published studies in Republic of Croatia that would provide us state of art in public sector innovation. Only a few articles in professional literature are available but they can't provide us real picture of the situation. Therefore, we assume that intensity and scope of public sector innovation in Croatia falls behind those in the world, especially in relation to the above country examples.

Nevertheless, the interest of innovation in PS is intensifying and as a good example we can point out the initiative of a private university that, in addition to the business oriented Innovation Management course, initiated and conducted a course of Innovation Management in PS within the Public Sector Management study (VBZ, 2018).

To conclude, the level of falling behind of Croatia compared to other countries is not simply quantifiable because there are no available data on which to make relevant comparative analysis. Therefore, the research focus which also corresponds to the leading research question of this paper is to investigate the current situation of the PSI in Croatia.

3. Methodology

For the purpose of responding the leading research question of this paper, a combined qualitative survey consisting of focus group and semi-structured interviews instruments of relevant public sector representatives has been conducted. For selected public sector representatives to be considered as a sample a preliminary prerequisite that they are regularly introducing, or otherwise dealing with public sector innovation was established.

Focus group was organized and conducted by a fully public owned leading Croatian company in the field of financial mediation and the application of information technologies. Attendees and discussants were invited predominantly from public (ministries, agencies, academia, public owned companies and others), but also private sector organizations representatives were present. Most of them have already introduced innovative product/services/processes in their institutions/organizations, or are otherwise dealing with innovative initiatives in their organizations. At the end of the focus group session a written transcription of the main discourses was produced and verified/approved with other participants.

As per interviews, the second research instrument, according the limited availability of resources for conduction of this research, representatives of two public sector institutions were selected and interviewed in a semi-structured approach. The first interviewees (two representatives) represent a governmental body – the Ministry, while the second one belongs to the segment of public owned companies which are partially competing on the market. In order to fulfil the semi-structured interviews conduction procedural requirements, a set of same five questions to be answered by all interviewees was prepared. At the same time, as per occasion, additional questions were asked during interviews to clarify and/or further expand newly emerging issues. As a semi-structured interview output a written transcription was produced and sent to verification and approval to the interviewees.

4. Results, discussion and recommendations

Focus Group (FG) results

The most important fragments of the FG discussion that are extracted from the written transcription are summarized in the following text.

Innovation in public administration in Croatia can be defined in a variety of ways and does not have to be linked exclusively to R&D or other product/services development activities. It can refer to any product or service offered by a public sector that in some way improves the quality of life of a citizens (Croatian residents), process, business, or can be internal optimization within an organization. To introduce and carry on with successful innovation in the national public administration, or in the private sector[1], top management support is essential, so their inclusion from the very beginning in the innovation process is of crucial importance. As the highest barrier to PSI, complicated access to financial resources has been stressed. It is considered as an over-regulated activity where the implementation of funding through structural and other available funds represents a slow and procedurally complex process. In order to successfully innovate, besides financial resources, it is also necessary to create and stimulate such a culture that continuously and systematically promotes innovation and innovative activities within the defined scope of work of PS employees. The cultural framework and the implementation process of innovation process in the private business world is similar to this of public administration, and in this sense procedural PSI can observe and translate some innovation habits and culture segments from the private sector, particularly from corporate one.

In order for PSI outputs not to be self-purposed, it is necessary to promote to and educate its users on the purpose of available innovative public administration services. As a good example, in several occasions, Estonia has been exposed as an excellent example that has introduced a number of innovations by possessing leadership vision and implementing it through prepared and motivated organization. These were in Estonia widely covered and promoted through the use of various media. One of the most pressing issue is chronically present wide spread perception that only the internal Croatian represents a potential market to organizations, either from PS or private, for the innovative products/services to be brought to the market or being offered to the public. Participants of the FG are arguing that also the national public sector should enlarge their perception of the market scope and look after to offer its innovative products/services to the international users/buyer, as Estonia did in the past.

[1] Intervention derived from Focus Group present representatives of the private sector

As per other PSI boosting initiatives, FG attendees emphasized the Public Procurement for Innovation (PPI) stipulated also by the EC, introduction of tailored tax incentives on the R&D&I, together with connection with emerging R&D&I competence centres.

The sole organization of the FG, first of this kind, is considered as an excellent vehicle to promote and enhance the PSI, whereby participants concluded that events of this kind should be organized and conducted with much higher frequency.

Interviews

Two significant contributors to the PSI in the Republic of Croatia have been selected and interviewed. The leading structured PSI performer as a public sector financial services company (FINA) and the Ministry that organizes EU funds management and promotes regional development. The most significant parts of their discussion is extrapolated from the produced transcripts and presented in the following text.

Regarding the PSI in Croatia, the representative of FINA has emphasized that PS institutions at the moment do understand the importance of it, and they even understand which general directions to take in order to enhance it and speed up the processes. Both representatives, FINA and the Ministry do agree that the innovation does not possess a clear umbrella strategy or an articulated and established discourse on it. FINA's recent examples of PSI are including the so called *e-račun* service, which was back in the 2008 prized with hi-tech innovation award.

The Ministry representatives are emphasizing that their innovativeness is primarily practiced and expressed through the large PS projects such as "Effective Human Resources", which promotes so-called *smart governance* or *good governance*. This project finances the partial digitalization of the public administration processes and may be considered as a significant contributor and outstanding example of PSI. Another project in which the Ministry participates is the national coordination of currently segmented strategic planning and strategic development management, which *per se* represents an innovation of public policies. Thus, in the Ministry mentioned above, innovations are introduced mainly through project based activities, usually at the top governmental level.

According to Ministry respondents, there are some evident barriers to PSI at higher hierarchy levels. In that sense, there is still no structured and articulated approach to PSI processes, nevertheless, intensification of PSI activity can be identified on various levels and segments. The usual resistance to change that PSI provokes is noticed which is followed by lack of awareness of the importance of innovation. Finally, the still underdeveloped collective consciousness for systematic innovation is widely present as well.

In order to overcome these barriers, interviewees from the ministry are suggesting that it is necessary to act profoundly on the mental structure of the people of PS as a one of first and fundamental moves. The innovative and contemporary approach to managing human potentials in PS is proposed, thus encouraging people by being rewarded when innovate, but also avoid sanctions when innovation does not succeed. One of the key approaches in isolation and elimination of resistance in introducing PSI is the highest possible level of involvement of all stakeholders in complex innovative projects from the very beginning. This assumes a more comprehensive and sophisticated application of change management methodology then the one used so far.

5. Conclusion

Attempting to answer the leading research question this paper has produced a reasonable and utilisable quantity of qualitative results followed by apposite practical recommendations. As portrayed throughout the work, produced and presented results are demonstrating that intensity of innovating in national public sector is still significantly lagging behind the developed countries. However, the currently identified ongoing PSI activities may ultimately indicate that the country is heading in right direction, but the dynamics and scope is still highly questionable and unsatisfactory.

PSI in Croatia is, with exempts of few PS organizations, still not performed in a structured and systematic approach. The key identified obstacles in boosting the PSI is lack of general PSI awareness which is accompanied by the absence of national discourse or a policy regarding the examined topic.

Introduction and conduction of complex (and not so) innovation processes have to be sponsored and strongly supported by the highest governance and management representatives, which is at the moment not a case in dominant number of PS organizations. The rots of such conditions are deeply embedded in current PS operating culture, which through current practices of human resource management procedures do not acknowledge and do not award any innovation initiatives. On contrary, it does rather discourage and penalise any innovation behaviour of their employees.

Saying that, unavoidable and immediate changes in the PS culture/governance/leadership and higher public visibility/awareness of the PSI through various initiatives are highly recommended. This is particularly related to those that may produce certain quantity of 'low hanging fruits', which should act as encouragement and motivation for subsequent steeper and more complex changes.

This paper findings will undoubtedly contribute to a better understanding of the Public Sector Innovation within the examined national context. Besides producing a solid knowledge base for the future complementary national PSI scholars' research efforts, due to the cultural similarity, it may also be used as guidance for the future regional PSI processes investigation.

REFERENCES

Australian National Audit Office (2009): ***Innovation in the public sector: enabling better performance, driving new directions : better practice guide.***

Chen, J., Walker, R.M., Sawhney, M., (2015): ***Public Sector Innovation: Typology and Validation.*** Acadademy of Management Proceedings, https://doi.org/10.5465/AMBPP.2015.13006abstract

Daglio, M., Gerson, D., Kitchen, H., (2014): ***Building Organisational Capacity for Public Sector Innovation, Background paper prepared for the OECD Conference "Innovating the Public Sector: from Ideas to Impact."*** Presented at the OECD Conference "Innovating the Public Sector: from Ideas to Impact," Paris.

European Commission, Enterprise and Industry Directorate-General, (2017): ***European public sector innovation scoreboard 2013: a pilot exercise***

European Commission, Directorate-General for Research and Innovation, (2013): ***Powering European public sector innovation: towards a new architecture: report of the expert group on public sector innovation***. Publications Office, Luxembourg.

Gascó, M., (2016): ***Living labs: Implementing open innovation in the public sector***. Government Information Quarterly, https://doi.org/10.1016/j.giq.2016.09.003, Vol. 34, No.1, pp.90-98

Mulgan, G., Albury, D., (2003): ***Innovation in the public sector,*** Strategy Unit, Cabinet Office

Raipa, A., Giedraityte, V., (2014): ***Innovation Process Barriers in Public Sector: A Comparative Analysis in Lithuania and the European Union***, International Journal of Business and Management, Vol. 9, No.10., pp. 10-20.

Rivera L., L., Simmonds, P., Roman, L., (2012): ***Trends and Challenges in Public Sector Innovation in Europe***, Thematic Report 2012 under Specific Contract for the Integration of INNO Policy Trend Chart with ERAWATCH (2011-2012) Contract number x07.

MINGO (2018): ***Ustroj ministarstva, https://www.mingo.hr/page/kategorija/ustroj-ministarstva***

Veleučilište s pravom javnosti Baltazar Zaprešić (University od Applied Sciences) (2018), https://www.bak.hr/ (accessed 6 April 2018)

World Bank (2017) Innovation Policy Platform, ***Innovation in the public sector.*** https://www.innovationpolicyplatform.org/content/innovation-public-sector (accessed 3 April 2018)

Katerina Malić Bandur, PhD., Assistant Professor
University of Mostar/Faculty of Economics
Matice hrvatske bb, 88000 Mostar, BiH
Phone: +387 36 355 118
Mobile: +387 63 997 223
Email adress: katerinamalicbandur@gmail.com

Lejla Smajlović, mr. sci., PhD. student
NLB Banka dd. Sarajevo
Product Development and Sales Support Department
Maršala Tita 34, 75 000 Tuzla, BiH
Mobile:+38762 384 175
E-mail adress: lejla.smajlovic.ipi@gmail.com

THE IMPACT OF TECHNOLOGICAL CHANGES ON JOB DESIGN IN MODERN ORGANIZATIONS

UTICAJ TEHNOLOŠKIH PROMJENA NA DIZAJNIRANJE POSLA U SAVREMENIM ORGANIZACIJAMA

ABSTRACT

The purpose of this paper is to indicate the impact of technological changes on job design, constant evaluation and updating business processes and work tasks in accordance with job requirements. From the last century to the present, there has been a revolution in technology and its use at the workplace. Integrating technology in work tasks and the way in which a business develops, organizes and manages is not always an easy process. New organization theories and job design for solving problems with automation and workforce emphasized the need for greater engagement of the workforce in the planning of automation and the implementation of new technologies. Technological changes bring significant changes in the working conditions of employees and their daily activities. The digital revolution, the evolution from manufacturing to information technology, has influenced new tasks and workplace responsibilities. New workplace paradigms are based on constant needs for improving and accepting new knowledge in a dynamic business environment. New technologies allow these constant advancements and brings new opportunities for investment and job creation, not only in developed countries with the most sofisticated technologies, but also in many emerging and developing economies. The aim of this paper is to show through the analysis of literature how important it is to understand the impact of technological changes on job designing so that the process can be successful and properly implemented. The importance of adequately designed workplaces is multiple and contributes to performance, employee satisfaction, but also their psycho-physical condition. On the other hand, as the ultimate implication of all this is the profit that the business organization generates.

Key words: *technological changes, business organization, job design, workforce, digital revolution.*

SAŽETAK

Svrha ovog rada je ukazivanje na uticaj koji tehnološke promjene imaju na dizajniranje posla, konstantnoj evaluaciji i ažuriranju poslovnih procesa i radnih zadataka na način da odgovaraju zahtjevima radnih mjesta. Od prošlog stoljeća do danas došlo je do revolucije u tehnologiji i njenoj *upotrebi na radnom mjestu. Integracija tehnologije u radne zadatke i način na koji se posao osmišljava, organizira i upravlja nije uvijek jednostavan proces. Nove teorije organizacije i dizajna rada za rješavanje problema s automatizacijom i radnom snagom naglasile su potrebu za više angažovanosti radne snage u planiranju automatizacije i tokom implementacije nove tehnologije. Tehnološke promjene su proizvele značajne promjene u uslovima rada zaposlenika i u njihovim dnevnim aktivnostima. Digitalna revolucija, kako danas nazivaju evoluciju od proizvodne do informatičke tehnologije uticala je na nove zadatke i odgovornosti zaposlenika na njihovim radnim mjestima. Nove paradigme na radnom mjestu su bazirane na konstantnoj potrebi za unapređenjem i prihvatanjem novih znanja u dinamičnom poslovnom okruženju. Upravo nove tehnologije omogućavaju ta konstantna napredovanja i donose pregršt novih prilika za ulaganja i stvaranje radnih mjesta, ne samo u zemljama sa najsavremenijim tehnologijama, već i u mnogim ekonomijama u razvoju i nastajanju. Rad ima za cilj da kroz analizu literature pokaže koliko je važno razumjeti uticaj tehnoloških promjena na dizajniranje posla, kako bi taj proces mogao biti uspješno i pravilno implementiran. Značaj adekvatno dizajniranih radnih mjesta je višestruk i doprinosi performansi, zadovoljstvu zaposlenih, ali i njihovom psiho-fizičkom stanju. Sa druge strane, kao krajnja implikacija svega toga je profit, koji poslovna organizacija ostvaruje.*

Ključne riječi: *tehnološke promjene, poslovna organizacija, radna mjesta, dizajn posla, radna snaga, digitalna revolucija.*

1. Introduction

The information technology revolution has had dramatic effects on jobs and the labor market. Many routine and manual tasks have been automated, replacing workers. By contrast, new technologies complement non-routine, cognitive, and social tasks, making work in such tasks more productive. These effects have polarized labor markets: While low-skill jobs have stagnated, there are fewer and lower paid jobs for middle-skill workers, and higher pay for high-skill workers, increasing wage inequality. Advances in artificial intelligence may be accelerating computers' ability to perform cognitive tasks, heightening concerns about automation of even high-skill jobs(Gibbs, 2017, 1).

As the next wave of technological change (big data and cloud technology) has started to emerge in the workplace, Morgan (2014) notes, there are many fascinating things happening in the world of technology that are impacting on work. The use and control of IT provides an opportunity to be innovative in work design, time, place and space of work (Harvey, 2010) in a global economy. Further, as Howcroft and Taylor (2014) point out, these innovations in labour utilization and scheduling work impact on employees' work and how work is done as the boundaries of the organization 'melt' away. Indeed, they argue that society is seeing a new wave of revolutionary technology that provides the platform for significant change in the way we work. These changes are creating renewed interest in how work is conceptualized – what we describe as the 'smart-side' of technology. However, these advances in technology can provide an unprecedented level of electronic monitoring and surveillance of work and employees both inside and outside the workplace (Holland, Cooper, Hecker, 2015). This can have a significant negative impact on work and employees – what we call the 'dark-side' of technology.(Holland, Bardoel, 2016, 1)

In this modern world of high-technology changes, technological advancement will continue to accelerate the future. Technological advancement change the organizational policies and strategies (Hampel and Martinsons, 2009).In any organization, most of challenges are generated by competition, advanced technology, enhancing employee efficiency and repaid growth, new leadership and management (Madsen et al., 2005).New technology is not only essential for company or government, it is also important for nation. Bussines organisations cannot run with old technologies. Technology increase human performance when human or employees use technology for the benefits of the organization and use with ethical values(Imran, 2014, 3).

2. Technological changes in modern organisations

The term technology change refers to overall process of invention, innovation and diffusion of technology or processes (Jaffee et al., 2002). Technological change is a most important initiator that allows people to do innovative things that have not been done before or would have done in a less efficient manner, but also very helpful for all walks of society and asserted that these changes are more evolutionary than revolutionary in nature, thus creating more job opportunities than the opportunities that they eliminate.(Hascic, Johnstone, Michel, 2008)

Organisational change is generally related to Information Technology. Technological change as a type of organisational change can take many forms, changes may occur in for example (Kearns, 2004):

- Service delivery – the development of new types of services to customers including those based on new technologies and communications facilities, this might be an organisations response to changing customer needs and market trends; the business need to compete on the same level as its competitors (BS1400-2, 2003)
- Business processes – reengineering a business process to use new technology for financial gain (Hammer, 1990), this might be classified as a “push” change factor if the organisation is reacting to its competitors and wants to gain competitive advantage.
- People systems – changes in roles, responsibilities and working relationships; requirements for retraining based on new technologies.
- Structures and facilities – establishment of new organisations, agencies and partnerships to facilitate the development and delivery of IT facilities. This type of change might be an organisations response to changing customer needs
- Technologies – the implementation of new IT infrastructures to support internal and external communications and information sharing for competitive advantage. Technological change can be driven both internally and externally. Heiss and Jankowsky (2001) point out however that establishing or reengineering processes to link technology resources and company objectives is a major challenge (Heiss and Jankowsky, 2001).

According to Gray (2006), there are many factors which drive technological changes and these come from different factors which mostly include corporate evolution, globalization, privatization and technological developments**.** Globalization, restructuring and new technology developments in each and every sector has bought tremendous changes in all aspects of business and human lifestyles. One of the major changes that took place in business is change technology. Technology innovation or change has an important influence on organizational performance. There is a close relationship between technology change, human resource management and organizational performance. Change in technology has been identified to have both positive and negative effects on employees work performance and attitude(Alameri, 2013, 34).

3. Job Design Theory and Practice

Job design is a key element that defines the individual's relationship to their work and organization and has been suffering numerous changes over the years. In fact, in the early job design research, companies were only focused on job simplification in order to require less skilled and cheaper workforce, assuring the elimination of all unnecessary movement to execute a particular task, in order to achieve the most efficient ways of performing work activities. However, and due to several reasons like technological evolution and changes of organizational demands, nowadays companies are designing and applying different kinds of work organization such as working in teams rather than individually and increasing the challenge inherent to every job (Oldham and Hackman, 2010). A review of literature on job design developed by Morgeson & Campion, 2003 identify and explain the major work design perspectives that have been investigated up to current times. For those authors, the major perspectives are: Scientific Management, Job Enrichment Approaches (where Motivator-Hygiene Theory from Herzberg and Job Characteristics Theory from Hackman and Oldham are included), Sociotechnical Systems Theory, Social Information Processing Perspective and Interdisciplinary Model of Job Design.Work design theory has a strong base in business practice. Designing work is very complex and responsible activity that influences performance of business processes (Sikavica & Novak, 1999). Therefore, it is important to identify state-of-the-art and future trends in work design used by numerous, primarily highperforming organizations. Those best practices very often set standards for majority of other organizations which lag behind, passively observing and implementing new solutions with a larger time lag after its occurrence (Hernaus, 2011, 10).

Even for the most successful organizations it can be said that technological forces primarily, as well as other environmental forces, dictate change in premises of work design and mechanisms for motivating employees (Mohrman, 2003). That results in numerous new conceptualizations and suggestions, out of which, as the most significant trends, one can extract the following: (1) systemic character and higher complexity of work; (2) lack of clear job boundaries; (3) variability of work design; (4) stronger focus on work and competencies (rather than jobs); (5) higher work interdependence; (6) emergence of group-based forms of work design; (7) wider use of various knowledge, skills and competencies; (8) optimal utilization of human potential; and (9) job crafting(Hernaus 2011, 10). In his study evidented from the above defined trends Hernaus (2011) evidented that changes of the nature of work and related forms ofwork design, context of job today is significantly different from the one in which main theories of workplace design were developed (during the 1970s) and that does not mean there is no relation and continuity, butonly indicates a necessary reorientation and a need for paying more attention to causes of work design anda broader context which leads to changes mentioned.

4. Impact of technological changes on job design

For the first time, four generations are sharing the same workplace: Traditionalists (pre 1945); Baby Boomers (pre 1965); Generation Xers (pre 1980); and Millennials or Generation Y (post 1980). With a changing workforce comes a change in workplace preferences, attitudes and expectations.The ideal work environment for Millennials, the research found, is spaces that are social, flexible, comfortable, open, spacious, collaborative with technology and environmentally conscious. Of equal interest, it appears that the behavior and work style of Millennials is already creating a tectonic shift in the design of many companies that has been embraced by workers across multiple generations. (Wagner, Watch, 2017)

Campion and Thayer in their study presents two general research issues. First, and most obviously, they wantedto examine the impact of the implementation of a new information technology on worker'sattitudes in a longitudinal quasi-experiment. Given the importance and increasing prevalence of IT in organizations coupled with the relative lack of rigorous empirical research, the setting and events they presented with an opportunity to explore this issue. Second, theywanted to determine if interdisciplinary approach to job design (Campion, Thayer, 1985) provides a useful framework for exploring the impact of information technology on the design of jobs. Research has demonstrated that this presents a more holistic and thorough approach to studying the design of work, and the setting and sample provided an opportunity to explore if this framework might generalize to the study of information technology.(Wright et al, 1997)

Michalel Gibbs (2017) in his study explain that Technology has opposing effects on jobs. Tasks most easily optimized and codified ex ante are automated, creating less demand for middle-skill workers, and less interesting jobs. By contrast technology complements tasks involving social interactions, continuous improvement, and innovation, creating more interesting low- and high-skill jobs. This has resulted in labor market polarization and wage inequality. Recent developments in artificial intelligence lead some to claim computers will soon replace many workers. Others are skeptical, noting labor markets have always absorbed new technology without mass unemployment. Policymakers should monitor the pace of automation, consider how IT can complement rather than replace employees, and how education can best support a labor market that will evolve with technology.While the adoption of new technologies is happening very quickly, organisation abilities to reskill an reorganize around automation is still behind. Research clearly shows that one of the new rules of the digital age is to expand vision of the workforce, thinking about the jobs in the content of the tasks that can be automated (or outsourced) and the new role of the human skills, and the focus even more heavily on the costumer experience, and employment value proposition for people.

In Deloitte's fifth annual *Global Human Capital Trends* report and survey (2017) is concluded that as organizations become more digital, they face a growing imperative to redesign themselfs to move faster, adapt more quickly, facilitate rapid learning, and embrace the dynamic career demands of their people. Leading organizations will offer dynamic development opportunities for employees, the organizations of the future will switch from old rule to new rules in job design, as it is presented in the next table.

Table 1 *Old rules and new rules of job design*

Old rules	New rules
Machines and artificial intelligence are taking over jobs (replacement)	Jobs and tasks are being redesigned to use more essential human skills, and are augmented by technology (augmentation)
Full-time employees are the main source of talent	A continuum of talent is available, including contractors, gig employees, crowds, and competitions
Workforce planning focuses on full-time workforce and skill requirements	The focus in workforce planning shifts to start with work and analyzing options across multiple workforces and technologies
Jobs are relativley static with fixed skill requirement	The half-life of skills continues to decrease rapidly, and work is being constantly reinvented
Jobs and career ladders are the foundation of work and the workforce	Projects, assignments, and tours of duty are building blocks for work; careers are portfolios of projects and experiences
Robotics and cognitive technologies are IT projectsRobotics and cognitive technologies are IT projects	Integrating people and technology is a multidisciplinary task
HR in job automation is to focus on change management and workforce transition	HR has a strategic role to facilitate and orchestrate the redesign of jobs and train the augmented workforce
The fundamental elements of work are "jobs," with formally developed "job descriptions"	The fundamental elements of work are "tasks," which are aggregated into jobs and roles

Source: Deloitte's fifth annual Global Human Capital Trends report and survey (2017)

In research made by Epson company (2017) it is explored the impact that technological transformation is having on the workplace positive but also and negative impact which is presented in the next table.

Table 2 *Positive and negative impact of technology change on workplace*

Negative impacts	Positive impact
almost half (48%), believe technology will directly disrupt their role within the workplace, and 6 % go so far as to argue that their individual roles will no longer exist in a decade	One third of European workers believe that their roles will become more efficient as a result of technology, as well as becoming more productive, more accurate and more analytical, with those in manufacturing and retail agreeing that increased efficiency would deliver the greatest benefit.
In a 2016 report The World Economic Forum estimated the net loss of jobs to robotic automation alone could reach 5.1 million in 15 leading global economies by 2021.	21 percent of employees believe technological transformation will result in their roles becoming more creative.
Almost half of respondents believed workplaces will become more monitored and controlled, but flexibility will also emerge, with 38 percent of respondents believing technology will result in more flexible working hours. Conversely, only 19 percent think their work will become more exhausting and demanding, highlighting an expected trend towards better work-life balance.	Communicating the impact of this workplace transformation will be vital. Only 62 percent of workers currently believe their organisations are good or excellent at communicating the impact of technological change. This falls to just 57 percent when communicating change around specific job roles. Furthermore, only 54 percent of respondents said their organisations are good or excellent at engaging impacted employees in the decision process. That leaves almost half of business failing to communicate appropriately about the impact of key technological change
If organisations wish to be positioned to take advantage of technological transformation, individual workers must be prepared. Only 65 percent of respondents believe their organisation is good or excellent at training employees to use technology, with only 47 percent holding the view their organisations are good at re-training potentially redundant employees.	In an environment where 60 percent of European workers believed their organisations are good or excellent at recruiting new employees, our research reveals a possible future in which skills are acquired rather than developed. In a workplace that is rapidly changing, supporting employees to adapt while acquiring the appropriate new talent could ultimately be vital.
about half the activities people are paid to do globally could theoretically be automated using currently demonstrated technologies.	about 60 percent of occupations, at least one-third of the constituent activities could be automated, implying substantial workplace transformations and changes for all workers.

Source: (https://www.epson.eu/insights/article/how-will-technology-change-our-jobs4)

McKinsey Global Institute (MGI) research in 2017. the automation potential of the global economy, focusing on 46 countries representing about 80 percent of the global workforce, has examined more than 2000 work activities and quantified the technical feasibility ofautomating each of them. Many activities that workers carry out today have the potential to beautomated. Technological change has reshaped the workplace continually over the past two centuries since the Industrial Revolution, but the speed with which automation technologies are developing today, and the scale at which they could disrupt the world of work, are largely without precedent.The proportion of occupations that can be fully automated using currently demonstrated technology is actually small—less than 5 percent. An additional important finding is that even if whole occupations are not automated, partial automation (where only some activities that make up an occupation are automated) will affect almost all occupations to a greater or lesser degree. The impact will be felt not just by factory workers and clerks but also by landscape gardeners and dental lab technicians, fashion designers, insurance sales representatives, and even CEOs. They find that about 60 percent of all occupations have at least 30 percent of activities that are technically automatable, based on currently demonstrated technologies. This means that most occupations will change, and more people will have to work with technology. Highly skilled workers working with technology will benefit. While low-skilled workers working with technology will be able to achieve more in terms of output and productivity, these workers

may experience wage pressure, given the potentially larger supply of similarly low-skilled workers, unless demand for the occupation grows more than the expansion in labor supply.Even while technologies replace some jobs, they are creating new work in industries and new ways to generate income. One-third of new jobs created in the United States in the past 25 years were types that did not exist, or barely existed, in areas including IT development, hardware manufacturing, app creation, and IT systems management. The net impact of new technologies on employment can be strongly positive.
Even if one knew the extent of future change, research on potential task automation is speculative and at an early stage. Equally important, but understudied, is the likelihood that ICT and machine learning might further complement tasks rather than automate them. Mechanisms by which technology complements work are not as well understood as those by which it substitutes. More evidence is needed on how machine learning and other technologies are implemented, and on how they substitute or complement different tasks, as well as the ultimate effect on job designs. New technology has not always complemented high-skill jobs, and may not in the future. Labor market effects of new technology will depend on complex interactions between skill demand and supply, on how technology is deployed, as well as on trade. Job design and work-focused research and design are endogenous.

5. Conclusion

There are many factors which drive technological changes and these come from different factors which mostly include corporate evolution, globalization, privatization and technological developments**.** Globalization, restructuring and new technology developments in each and every sector has bought tremendous changes in all aspects of business and human lifestyles. One of the major changes that took place in business is change technology. Technology innovation or change has an important influence on organizational performance, but and individual performances of employees as well.There is a close relationship between technology change, human resource management and organizational performance. Change in technology has been identified to have both positive and negative effects on employees work performance and attitude.

Technological change has reshaped the workplace continually over the past two centuries since the Industrial Revolution, but the speed with which automation technologies are developing today, and the scale at which they could disrupt the world of work, are largely without precedent.Task interdependence, workflow uncertainty, and task uncertainty must all be considered in job design. New information technologies often change task interdependence, workflow uncertainty, and task uncertainty, either reducing or increasing them for the employee. The specific impacts will be influenced by how employees are expected to use the technology and whether higher management uses the technology to empower employees or more closely monitor and control them. Research clearly shows that one of the new rules of the digital age is to expand vision of the workforce, thinking about the jobs in the content of the tasks that can be automated (or outsourced) and the new role of the human skills, and the focus even more heavily on the costumer experience, and employment value proposition for people.As organizations become more digital, they face a growing imperative to redesign themselfs to move faster, adapt more quickly, facilitate rapid learning, and embrace the dynamic career demands of their employees.

REFERENCES

Alameri, M.(2013):***Assessing resistance to technological change for improved job performance in the UAE (public sectors)***, PhD thesis, University of Salford. Available at:http://usir.salford.ac.uk/30722/

Kearns, B. (2004): ***Technology and Change Management***, msc publications. Available at: http://www.comp.dit.ie/rfitzpatrick/MSc_Research_papers_2004.htm

Deloitte Global Human Capital Trends (2017***): Rewriting the rules for the digital age***, Available at: https://www2.deloitte.com/insights/us/en/focus/human-capital-trends.html

Epson Corporation, (2017): ***How will technology change our jobs?*** Available at: https://www.epson.eu/insights/article/how-will-technology-change-our-jobs4

Gibbs, M. (2017): ***How is new technology changing job design?***, IZA World of Labor

Hampel, P.S., Martinsons, M.G. (2009): ***Developing international organizational change theory using cases from China***, Human Relations, 62(4), 459-99.

Harvey, D. (2010):***The enigma and capital: And the crises of capitalism***, London: Profile Books.

Hascic, I., Johnstone, N., Michel, C. (2008): ***Environmental policy stringency and technological innovation: Evidence from patent counts. In European Association of Environmental and Resource*** Economists 16th Annual Conference, Gothenburg, Sweden.

Hernaus, T.(2011): ***Business Trends and Tendencies in Organization Design and Work Design Practice: Identifying Cause-and-Effect Relationships***. *Business Systems Research*, 2(1), 4-16.

Holland, P., Bardoel, A. (2016): ***The impact of technology on work in the twenty-first century: exploring the smart and dark side***,The International Journal of Human Resource Management, 2016 Vol. 27, No. 21, 2579–2581,

Holland, P., Cooper, B., & Hecker, R. (2015): ***Electronic monitoring and surveillance in the workplace: The effects on trust in management, and the moderating role of occupational type***, Personnel Review, 44, 1–27.

Howcroft, D., Taylor, P. (2014): ***Plus ca change, plus la meme chose? – Researching and theorising new technologies***. New Technology, Work and Employment, 29, 1–8.

Imran, M. (2014): ***Impact of Technological Advancement on Employee Performance in Banking Sector***, International Journal of Human Resource Studies ISSN 2162-3058, Vol. 4, No. 1

Jaffe, A. B., Richard G. N., Robert N. S. (2002): ***Environmental Policy and Technological Change***, Volume 22, Issue 1–2, pp 41–70

Madsen, S.R., Miller, D. and John, C.R. (2005): ***Readiness for organizational change: do organizational commitment and social relationships in the workplace make a difference***, Human Resource Development Quarterly, 1(2), 213-33.

McKinsey Global Institute. (2017): ***Jobs lost, jobs gained: workforce transitions in a time of automation***, Available at: https://www.mckinsey.com/mgi/overview/2017-in review/automation-and-the-future-of-work/jobs-lost-jobs-gained-workforce-transitions-in-a-time-of-automation

Morgan, J. (2014):***The future of work: Attract new talent, build better leaders, and create a competitive organization,*** Hoboken, NJ: Wiley.

Wagner, J., Watch, D. (2017):***Innovation Spaces: The New Design of Work,*** Retrievedfrom https://www.brookings.edu/wp-content/

Wright, Patrick M., Kacmar, K., McMahan, G. C., Karen J. (1997): ***Impact of Information Technology on Employee Attitudes: A Longitudinal Field Study*** CAHRS Working Paper Series. Paper 152. Available at:http://digitalcommons.ilr.cornell.edu/cahrswp/152

Marko Mandić, univ.bacc.oec., **Graduate student**
Josip Juraj Strossmayer University of Osijek
Economic faculty in Osijek
Trg Ljudevita Gaja 7, 31000 Osijek
E-mail address:marmandi@efos.hr

Ivan Kristek, Ph.D., **Assistant Professor**
Josip Juraj Strossmayer University of Osijek
Economic faculty in Osijek
Trg Ljudevita Gaja 7, 31000 Osijek
Phone: +385 31 224 410 Fax: +385 31 211 604
E-mail address: ikristek@efos.hr

CONTROL AND REGULATION OF MARKET CONCENTRATION IN REPUBLIC OF CROATIA

KONTROLA I REGULACIJA GRANSKE KONCENTRACIJE U REPUBLICI HRVATSKOJ

ABSTRACT

The Croatian market is relatively young and it is still in development. Our market did not have a complete affirmation as Western European markets or USA market. For this reason this paper will talk about control and regulation of market concentration in Republic of Croatia. The target of this work is to explore whether there are equal condition for all entrepreneurs and is the market in customer service. In this paper, what is crucial for this topic will be theoretically presented, and this is generally the definition of the branch concentration, apropos in what forms it appears.The analysis will also cover types of integration, the reasons for their development and the completion of the whole will be analyzed examples from the market of the Republic of Croatia. All types of mergers have the advantages and disadvantages of both the companies and the competition and the buyers above all. One of the problems associated with joining is a monopoly. The monopoly as a negative market phenomenon will be spoken in this paper as well. In order for the market to exist successfully and to prevent negative phenomes, there must be an organization that will deal with the protection of a fair and honest way of doing business.Therefore, the legal context that is defined by the laws of the Republic of Croatia will be considered.

Key words*: market, market concentration, market competition.*

SAŽETAK

Tržište Republike Hrvatske je relativno mlado tržište koje se još uvijek razvija i nije doživjelo potpunu afirmaciju kao tržišta zapadnih europskih zemalja ili SAD-a. Iz tog razloga ovaj rad će se bavit načinima reguliranja granske koncentracije na području Republike Hrvatske. Cilj samog rada je istražiti postoje li jednaki uvjeti za sve poduzetnike te je li tržište podređeno stvaranju maksimalne koristi za potrošače. U radu će teoretski biti prikazano ono što je ključno za ovu tematiku, a to je općenito definiranje granske koncentracije, odnosno u kojim oblicima se ona pojavljuje. Analizom će biti obuhvaćene i vrste integracija, razlozi njihovog nastajanja a za kompletiranje cjeline će biti analizirani primjeri s tržišta Republike Hrvatske.

Sve vrste udruživanja imaju prednosti i nedostatke, kako za poduzeća tako i za kupce.

Jedna od pojava koja se veže uz udruživanje je monopol. O monopolu kao negativnoj tržišnoj pojavi bit će govorai u ovom radu. Da bi tržište uspješno egzistiralo i da bi se spriječile negativne pojave, moraju postojati tijela koja će se bavit zaštitom fer i poštenog načina poslovanja. Stoga će biti sagledani pravni kontekst koji je definiran zakonima Republike Hrvatske.

Ključne riječi: *tržište, granska koncentracija, granska konkurencija.*

1. Introduction

The market in the Republic of Croatia is still relatively new and underdeveloped. After gaining its independence in the early 1990s, Croatia was at a crossroads in various areas and it had to go through the process of transition,which included making the shift to market economy. For many companies that was a difficult process, because they were used to the socialist system which never forced them to improve the quality of their products or widen their product range. However, even in the previous system, some companies that were capable for market competition developed, such companies, in their original or modified form, are still in business today. Considering that Croatia was a part of Yugoslavia, most of the companies were owned by the state and a very small percentage was owned by individuals, which is almost diametrically opposite to the mixed system of economy that we know today. For that reason, the system had to go through the process of transformation and privatization. Even though the privatization process it not specifically connected to the topic of this paper, some of its aspects are the generators of the problems present in our market.

In order to avoid deviating from the topic at hand too much, there will be a short summary of the basic principles of this paper. As part of the organization of the paper, the theoretical framework will mostly be supported by examples from the market in the Republic of Croatia, with a focus on the economy in Eastern Croatia.

In the first part, we will show the key theoretical concepts, with the focus on industry concentration and the forms of integration. The second part of the paper discusses the legal framework, i.e. the regulatory bodies. Therefore, the focus is on the Competition Act and the Croatian Competition Agency. All of the mentioned factors will be the basis for the valorisation of the market in the Republic of Croatia and we will try to determine if the market is developed enough and if there is enough space and an appropriate way to make progress.

2. Theoretical framework

2.1. The determination of the term industry concentration

Market concentration has two forms, the concentration ofsellers or those offering goods or services, and it represents the level to which the offer is controlled by the sellers, and the concentration of buyers, which represents the level to which purchasing is controlled by the buyers. The level of market concentration, primarily the number and quantity of sellers and buyers, has a strategic value in determining consumer satisfaction and the competitiveness of a company engaged in a certain industry (Karić,Kristek,2009). According to everything mentioned above, the importance of buyers and those offering goods or servicesshould at least be equal, but that is often not the case. Buyers are not equal to the those offering goods or services because of several reasons, and the market we know today is dominated by the concentration of sellers, which is otherwise known as industry concentration. The reason for this is mostly in the method of buying. Sellers are mostly buying in bulk and that provides them with advantages, i.e. they are granted a discount due to the quantity of goods they are buying, while the standard buyer does not have access to that option. Considering that microeconomics is expressed in measurable parameters, there is a term for industry concentration called concentration ratio. It is defined as the percentage of the share held by the largest companies in the total sales of the industry (usually the four largest companies). For example, the concentration ratio of 60 would tell us that 4 largest companies hold a 60 percent share in the sales of the entire industry. In order for the companies to handle the pressure of competition better and to be as successful as possible, they join together, which creates conglomerates and holding companies.There are four main reasons for industry concentration of companies, those are market reasons, economic reasons, developmental reasons, and social reasons (Karić, 2006, 311). Market factors affect the fact that some industries become controlled by a smaller number of large companies. On the one hand, it is simply because many companies cannot handle the increase in competition so they fall apart. On the other hand, the number of companies in specific industries reduces as the result of tendencies by many companies to reduce the competitive pressure. Those companies with advantages regarding production costs are more successful in sales and they can expand their capacity, which leads to more advantages resulting from the use of mass production techniques. Economic factors affect the increase in industry concentration because the development of modern production technology requires a high level of economic rationality. In some industries, low production costs can be achieved only by producing large quantities of products. Concentration benefits the economy of scale, not only in production, but also in the area of sales promotion.Therefore, large capacities required by modern technology offer only enough space for a relatively low number of companies in an industry, this reason is particularly relevant for small countries, because the size of the market automatically limits the number of companies. Developmental factors that support concentration are usually connected to the tendencies of business entities to reduce the competition in their industry.We can point out here that large companies have the option of being more cost-effective, which theoretically means that they have the ability to charge a lower sales price for their product, which ultimately results in higher customer satisfaction.

Integrations are used as a form of intensifying the development of companies. Joining together with another company is also a way to obtain new technology.It is considered that the application of integration, as a way to expand capacity, increases during periods of reduction of economic growth. The example of this industry concentration in Croatia is the purchase of Mercator by the Croatian concern Agrokor. After three years, this purchase can be evaluated as unsuccessful because it almost resulted in bankruptcy for that concern. Social factors are connected to economic policy measures, which support the industry concentration process in certain conditions. Regarding this, many countries encourage integration through their regulations, specifically using their tax policy.

2.2. Types of integration

The most important forms of concentration are integrations, which can be horizontal, vertical, and lateral. Horizontal integration is the merger of two companies engaged in the same activities or the same product. In the 20th century, it was the most represented form of company integration. Companies active in the same market join together in a single company. In the international market, one of the recent examples is the acquisition of Opel/Vauxhall by the PSA group in a transaction worth more than 2 billion euros, which made the PSA group, the owner of Peugeot and Citroen, the second largest automobile manufacturer in Europe. In the domestic market, the example of horizontal integration is the purchase of the bakery Krka by the company Mlinar in May of this year. With this acquisition, Mlinar strengthened its position in the Adriatic, which will affect the need for more production, which is located in Eastern Croatia.

The other type of integration is vertical. It represents the expansion of a company toward the source of raw material (merging with the supplier) or forward, toward sales to the end consumer (merging with the buyer). Vertical mergers are present in companies engaged in different stages of production of the same or similar products, with the goal of establishing control over the entire production process in an industry. Another example can be drawn from our largest concern;it is the entrance of Konzum in the ownership structure of Belje.As the global example of vertical integration recently, we can mention the global phenomenon Amazon, which became a book publisher after a period of only selling books.

The third type of integration is lateral integration, it includes companies engaged in unrelated areas of activity or from different markets, or companies that make unrelated products, and this causes the lowest level of jeopardy when it comes to competition. The Croatian example for this type of integration would be the Adris group,which is currently engaged in tourism and insurance, while in the middle of the 1990s their basic activity was the production of tobacco products.

2.3. Market structure

In the simplest terms, the market is where supply and demand meet. This short definition should be clear to anyone. This means that there are buyers in the market who want to use certain resources to buy products and services that they require, as well as sellers, or people who want to receive a certain resource for their product or service. The market includes all real and potential buyers and sellers of a certain product (Salvatore, 1993). Market structure means a competitive environment populated by buyers and sellers of products. Everyone understands that market demand is not a simple concept that can be easily analysed. Market demand is a multidimensional function, determined by many variables (Koutsoyiannis, 1975). Traditional position is that the most important determinants of market demand are the price of the relevant good, the prices of other goods, income, and consumer taste. Aside from the previously mentioned determinants, market demand is also affected by numerous other factors, like income distribution, the entire population and its composition, wealth, the availability of credit, supply, and traditional customs. The last two factors introduce the possibility of past behaviours affecting the present and make market demand analysis dynamic.

Market structure describes exchange conditions, intensity of competition, and the concentration level in a specific market. There are four basic forms of market structure, those are: Perfect competition and monopoly as the two extremes, and monopolistic competition and oligopoly. Those different types of market structure are defined and differentiated by the number and size of buyers and sellers, the type of products bought and sold (i.e. whether the products are homogenous or differentiated), the level of resource mobility, how simple it is for companies to enter or exit the market, and how informed companies and consumers are regarding prices and costs.

Perfect competition is the form of market structure with many buyers and manufacturers, who are individually too small to affect the price of products. They are creating a homogenous product, it is simple to enter and exit the industry, and all the participants are perfectly informed regarding market conditions. In the conditions of perfect competition, the market price and quantity of a product are defined exclusively by the forces of market demand and market supply of products, i.e. the price is dictated by the market equilibrium. On the other hand, monopoly is the form of market structure where only a single company is selling a product without similar substitutes. Entering the industry is very difficult or impossible (which is proven by the fact that there is only one company in the industry). Aside from that, it is necessary to emphasize that the market demand curve of the monopoly company is also the market demand curve.

Monopolistic competition represents the case in which there are many sellers of differentiated products and in which entering the industry or exiting the industry is rather simple in the long term. When observing all of its features, it is almost the same as perfect competition. The basic difference between those two structures is in the nature of the product. Monopolistic competition means the production of differentiated products, which offers the option of slightly affecting its price. Oligopoly is the form of market organisation in which there is a small number of sellers of homogenous or differentiated products. Entering and exiting the industry is possible, but difficult.

In order to be able to differentiate them from perfect competition, we often refer to monopoly, monopolistic competition, and oligopoly as imperfect competition. It is important to emphasize that the definition of monopoly, monopolistic competition, and oligopoly are described from the position of the product sellers. Analogous types of market structure can be defined from the position of product buyers and inputs. These are monopsony, monopsonistic competition, and oligopsony. Monopsony is a market environment in which there is only one buyer of products or inputs for which there are no close substitutes. Monopsonistic competition and oligopsony are similarly defined.Monopsony and oligopsonyare more common in input markets than in goods markets. Sometimes they appear in labour markets where one employer or several large employers are dominant, or in local agricultural markets where only one processor or several large processors are dominant.

2.4. Role of the state

Usually the market cannot regulate itself, if it did there would be a question of how fair it would be. For that reason, the state plays a corrective role, through laws and institutions that ensure that the market does not become a source of anomalies, in business and for the entire society. Considering that Croatia is a young market and a young democracy, several cases have shown that the mediation of the state is not creating positive results and that the state has often failed in its interventions. Due to the lack of a market mechanism for the allocation of resources, stimulation from the market mechanism and state interventions are necessary (Benić, 2012). In modern economies, states have many roles and tasks related to the functioning of market mechanisms, from providing and managing services for internal and external safety of the state, to regulating certain activities ranging from power management and education, banking and healthcare, through building motorways and helping the elderly, the ill, and the poor, to taxation and redistribution of the part of the income.That is why often, whether at the local or at the state level, the role of the state in modern economies is discussed by considering its functions. The first often emphasized function of the state is its job of setting up the legal and institutional structure or limitations for market activities. Even in the purely laissez-faire variant of market societies, the state must provide a legal framework and the enforcement of contracts, ownership rights, and property. Secondly, the state intervenes in the allocation of resources through state consumption, taxation policy, and its own production of certain goods and services. Aside from that there is the redistribution of income, because in all modern mixed economic systems there is a portion of the population that is unable to earn enough for the minimum standard of living. In that case, it is necessary to redistribute the income from those who have enough and more to those who do not have enough, and this can be achieved simply through fiscal policy. The state should act in order to maintain the stability of prices, full employment, and economic growth, which it can affect through economic policy measures, especially through fiscal and monetary policy. The state can enact laws that change the system of ownership rights and by doing so affect the exchange of goods and services. It can establish regulatory bodies with the purpose of suppressing the market influence of monopolies, by limiting their prices or profit. As a response to the imperfections of the market and the solutions that would be provided by an unregulated market system, the role of the state is especially important in modern economies. State regulation is the result of pressure from companies, consumers, and environmental protection groups, which results in regulation that supports entrepreneurs and protects consumers, workers, and the environment (Salvatore, 1993). However, according to the traditional theory, regulation is enforced in order to ensure that the economic systems function to support the public interest and to overcome market failures. Hundreds of interest groups from the agricultural and commercial business circles, as well as experts, managed to influence the state so it would enact many regulations that actually (though probably not always fully intentionally) limit competition and create artificial market domination. Those regulations include licencing, patents, limits in price competition, and limits on the free flow of international commerce.

3. Croatian Competition Agency

3.1. General information on the Croatian Competition Agency

When it comes to the regulation of the market in the Republic of Croatia, the Croatian Competition Agency and the Competition Act are the key factors. The goal of protecting the market competition is primarily in creating benefits for the consumers and equal conditions for all the entrepreneurs in the market, who, by adhering to the existing rules and competing in the market through quality, price, and the innovativeness of their products and services, contribute to the general development of the economy. When it comes to entrepreneurs and their actions that have anti-market effects, like fixing prices with their competitors, abusing the entrepreneur's dominant position or concentration control, and merging and consolidating entrepreneurs, the Agency evaluates those actions as part of its duties, penalises the violators, and sends a clear message to all the participants on the market. Free entrepreneurial initiative should not be limited, but its development is regulated by the strict rules of market competition, which are not only repressive, but also preventive. Much more is required for the development of efficient market competition, particularly strengthening the understanding and knowledge regarding all of these rules, which is the constant priority of this Agency.
One of the most important tasks of the Agency is to promote the culture of market competition, recognise the limitations to market competition, and act according to standing laws and regulations that overcome the obstacles in free and fair competition of entrepreneurs on the market.Market competition ultimately benefits everyone: consumers, entrepreneurs, and the economy as a whole. It ensures better supply and quality, and lower prices of products and services, encourages innovation, and affects economic growth.

In the Republic of Croatia, the law states that an entrepreneur is in the dominant position if its market power enables it to act significantly independent of actual or possible competitors, consumers, buyers, or suppliers in the relevant market. Aside from that, it is also defined that an entrepreneur is in the dominant position it its market share in the relevant market is over 40 percent. Any abuse of a dominant position by one or more entrepreneurs in the market is prohibited in the Republic of Croatia, which is characterised by the following:

1. Direct or indirect imposition of unfair purchase or sales prices, or other unfair trade conditions,
2. Limiting production, the market, or technological development to the detriment of the consumers,
3. Applying unequal conditions to the same business transactions with other entrepreneurs, which puts them in an unfavourable position compared to their competitors,
4. Only concluding contracts if other parties in the contract agree to additional obligations, which, by their nature or trade customs, are not directly related to the subject of those contracts.

The theses mentioned above are extremely important, but also extremely complex, because they involve long-term and comprehensive processes, which often result in questionable decisions and controversies related to those processes. Besides, agreements on price fixing or supply limitations between two or more entrepreneurs are very difficult to prove, which places the Croatian Competition Agency in an unfavourable position.

3.2. Decisions of the Croatian Competition Agency

The purview of the Agency can be best described with the example of the concern Agrokor and their entry into the ownerships structure of Mercator, because Agrokor's acquisition of Mercator required that many very serious conditions be fulfilled, divestment among them.Namely, according to the Agency's assessment, the market share of a company after this merger would be between 30 and 40 percent, so it would be prohibited.The evaluation of the AZTN (Croatian Competition Agency) was that this concentration would have a significant negative effect on market competition. The Agency's opinion was that it would be ideal for Agrokor, considering the power of their retail chain Konzum, if Mercator took over its sales networks in Croatia. With the amount of time that has passed, it is easier to judge if this merger was good or not, and if the decision issued by the state institution could have been different, and would a different decision prevent Agrokor's financial problems.

The decisions issued by the Agency have long-term consequences, not only for the parties in the procedure (companies) but also for the national economy. In the following table, we have shown the overview of the total number of procedures per year brought before the Agency. It clearly shows the amount of market competition cases that have a direct effect on the structure of a specific market.

Table 1 *Number of market competition cases for each specific year brought before the Croatian Competition Agency*

No.	Year	Number of resolved cases
1	2016	641
2	2015	667
3	2014	632
4	2013	481
5	2012	259
6	2011	294
7	2010	250
8	2009	188
9	2008	234
10	2007	217

Source: Croatian Competition Agency: Annual Reports of the Croatian Competition Agency from 2016 to 2007.

4. Conclusion

Considering everything stated above, the issue of industry concentration represents a complex branch of microeconomics. The complexity is in defining what is fair, and what is unfair. In other words, to what extent is certain concentration harmful for the market, the buyers, and the competitors.Sometimes it is not enough that the market is full of competitors quantitatively, if only a few of them are controlling the largest part of the market. This complexity is why this area is interesting, it is necessary to reach decisions and conclusions that would reflect the quality of market competition, while not causing harmful effects to any of the participants in the market.

All of this theoretical framework transferred to the market of the Republic of Croatia works well in some cases, and not so well in others.

We have reached the conclusion that certain market related issues are highly interconnected and a wrong move in one location would lead to further mistakes. The regulation of industry concentration in the Republic of Croatia is not on the level required by the modern way of conducting business. The cause for this are the companies that still function on the basis of some earlier arrangements, to the extent that the state itself does not have enough power or adequate methods for resolving the problem. The more serious problem than the cause are the consequences, which have significant effects on the entire market, our competitiveness on the foreign market, and our total economic power, which should be much higher than what it presently is.

REFERENCES

Benić, Đ. (2012): ***Mikroekonomija menadžerski pristup,***Školska knjiga, Zagreb

Benić, Đ. (1993): ***Osnove ekonomije,*** Školska knjiga, Zagreb
Croatian Competition Agency (2017): ***Annual Report of the Croatian Competition Agency for 2016*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2016): ***Annual Report of the Croatian Competition Agency for 2015*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2015): ***Annual Report of the Croatian Competition Agency for 2014*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2014): ***Annual Report of the Croatian Competition Agency for 2013*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2013): ***Annual Report of the Croatian Competition Agency for 2012*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2012): ***Annual Report of the Croatian Competition Agency for 2011*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2011): ***Annual Report of the Croatian Competition Agency for 2010*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2010): ***Annual Report of the Croatian Competition Agency for 2009*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2009): ***Annual Report of the Croatian Competition Agency for 2008*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Croatian Competition Agency (2008): ***Annual Report of the Croatian Competition Agency for 2007*** available on: http://www.aztn.hr/en/annual-reports/ (accessed 5september 2017)
Koutsoyiannis, A. (1975): ***Moderna mikroekonomija*** Mate, Zagreb
Karić, M. (2006): ***Mikroekonomika***, Ekonomskifakultet u Osijeku, Osijek
Karić, M., Kristek I., (2009): ***Koncetracija maloprodajnog tržišta u Republici Hrvatskoj***, IX. International scientific conference, Poslovna logistika u suvremenom menadžmentu, Ekonomski fakultet u Osijeku, Osijek
Salvatore, D. (1993): ***Ekonomija za menadžere u svjetskoj privredi***, Mate, Zagreb
Sandilands T. (2012): ***Example of a company's forward integration*** available on: http://smallbusiness.chron.com/example-companys-forward-integration-37601.html (accessed: 31 august 2017)
Simonetti, B. (2012): ***Examples of backward vertical integration strategies***,available on: http://smallbusiness.chron.com/examples-backward-vertical-integration-strategies-14703.html (accessed 31 august 2017)
Vuzem, G. (2017): ***PSA Peugeot Citroen kupio Opel/Wauxhall za 2,2 milijarde eura***, Available on: https://www.tportal.hr/tehno/clanak/psa-peugeot-citroen-kupio-opel-vauxhall-za-2-2-milijarde-eura-20170306 (accessed: 30 august 2017)
Zakon o zaštiti tržišnog natjecanja, available on: https://www.zakon.hr/z/114/Zakon-o-zaštiti-tržišnog-natjecanja (accessed on: 6 september 2017)

Nikolina Pavičić Rešetar, univ. spec. oec., Ph.D. Students
Veleučilište „Baltazar Zaprešić“
Vladimira Novaka 23, 10 290, Zaprešić
Phone: +385 (0) 91 537 90 59
E-mail address: nikolina.pavicic@bak.hr

Prof. Zdravko Tolušić, PhD
Josip Juraj Strossmayer University of Osijek
FacultyofEconomicsin Osijek
Trg Ljudevita Gaja 7, 31000, Osijek
Phone: +385 (0) 95 915 55 69
E-mail address: tolusic@efos.hr

Zlatko Rešetar, univ. spec. oec., Ph.D. Students
Veleučilište „Baltazar Zaprešić“
Vladimira Novaka 23, 10 290, Zaprešić
Phone: +385 (0) 98 622 685
E-mail address: zresetar@bak.hr

INTERNET BUSINESS AS SUPPORT FOR FAMILY FARMS

INTERNETSKO POSLOVANJE KAO POTPORA OBITELJSKIM POLJOPRIVREDNIM GOSPODARSTVIMA

ABSTRACT

Subjects of this paperwere possibilitiesfor family farms (OPG) to do business on internet. Aim of research was to find out what young people from the more developed western part of Croatia are thinking at the possibility of developing applications or internet shop for family farms.Agriculture, as one of the comparative branches that can help improve economic situation of Eastern Croatia, must turn to new promotion channels to survive.It is almost impossible for small family farms to do business online.To reach the final consumer, each manufacturer must be visible, because as the saying goes "if you're not online you don't exist".Development of internet, smartphones and apps enables relatively inexpensive advertising.One of the options is to develop an application that would geographically display small family farms and their products to make it easier for customers to reach them.Another option is an online store that would allow small family farms and households to offer their products on internet market.According to the data published on Ministry of Agriculture website on 29.january.2018 number of agricultural businesses is 164,628.Of these 159.349 or 96.79% are family farms.The development and implementation of these solutions can be achieved by mutual forces of farmers, but also with the support of the Ministry of Agriculture and Paying Agency for Agriculture, Fisheries and Rural Development.A survey was conducted on a sample of 150 students who showed their point of view on purchasing a homemade product via Online Store, or use of an application in which it is possible to see where the family farm is located and what can be purchased there.Such a way of doing business would enable the direct link between producers and consumers and help economic development of eastern Croatia, youth employment and the reduction of the emigration of young people.

Key words: *Online store, small farm, application for family farms.*

SAŽETAK

Predmeti istraživanja ovog rada bile su mogućnosti internetskog poslovanja za obiteljska poljoprivredna gospodarstva OPG. Cilj istraživanja bio je ustanoviti kako mladi iz razvijenijeg zapadnog dijela Hrvatske gledaju na mogućnost razvoja aplikacije ili internetske trgovine. Poljoprivreda, kao jedna do komparativnih grana koje mogu pomoći poboljšanju gospodarske situacije Istočne Hrvatske, mora se kako bi opstala okrenuti novim kanalima promocije. Malim obiteljskim poljoprivrednim gospodarstvima gotovo je nedostižno internetsko poslovanje. Kako bi došli do krajnjeg potrošača, svaki proizvođač, mora biti vidljiv, jer kako kaže popularna uzrečica „ako niste na internetu ne postojite“. Razvoj interneta, pametnih telefona i aplikacija omogućava relativno jeftino oglašavanje. Jedna od mogućnosti je razvoj aplikacije koja bi geografski pokazivala OPG-ove i njihove proizvode kako bi kupci mogli lakše doći do njih. Druga mogućnost je internetska trgovina koja bi omogućila plasman malim poljoprivrednim gospodarstvima i domaćinstvima da svoje proizvode ponude tržištu. Prema podatcima objavljenim na stranicama Ministarstva poljoprivrede na dan 29.01.2018. broj PG-a je 164.628. Od toga 159.349 ili 96,79% su obiteljska gospodarstva. Razvoj i implementaciju ovih rješenja moguće je ostvariti zajedničkim snagama, ali i uz potporu Ministarstva poljoprivrede i Agencije za plaćanja u poljoprivredi, ribarstvu i ruralnom razvoju. Napravljeno je istraživanje na uzorku od 150 studenata koje je pokazalo njihovo stajalište o kupovini domaćeg prehrambenog proizvoda preko On line trgovine, odnosno korištenju aplikacije u kojoj bi bilo vidljivo gdje se nalazi koje obiteljsko poljoprivredno gospodarstvo i što se na njemu može kupiti. Ovakav način poslovanja omogućio bi direktnu povezanost proizvođača i potrošača te pomogao gospodarskom razvoju istočne Hrvatske, zapošljavanju mladih te smanjenju iseljavanja mladih.

Ključne riječi: *On line trgovina, malo poljoprivredno gospodarstvo, aplikacija za OPG.*

1. Introduction

In Croatia, the relatively new term "Family Farm" seeks to encourage the development of villages and rural areas.The abbreviation for the Family Farm is OPG. At family farm, adult members of the same household carry out agricultural activities using their own and leased resources and are enrolled in the Register of Agricultural Holdings.Members of the same household with the agricultural activity if necessary may perform supplementary activities.Family farm that is engaged in the supplementary activityhas to enrollee in the Register of Supplementary Activities.Within the family farm organization, it is necessary to distinguish family farm holders and members.Family farm holder is - an adult person who works continuously or occasionally on the holding and is responsible for his business,and family farm members - are adult members of same household who have a permanent residency at the same address and are engaged in a permanent or periodic work on the Family farm.
The law defines family farm as individual or a group of individuals in a single household who carry out agricultural activity on a farm using their own or rented production units.[1]

According to Defilippis there are three basic elements that together make up a family farm:

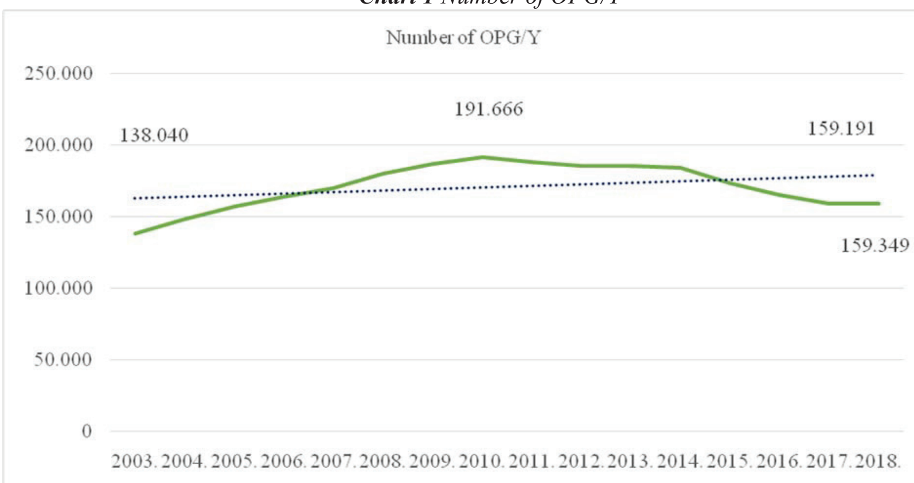
a) Family or household - a social community within which all necessary survival activities are carried out.
b) Property - represents a land property that generations are trying to increase and it makes
c) Economy - is the relation between property and family (total family workforce engaged in the production)[2]

[1]https://www.zakon.hr/z/232/Zakon-o-poljoprivredi pristupano 20.2.2018

Like all other spheres of human activity, agriculture was not been spared of overall computerization. Future of the Croatian village and small family farms is impossible without the complete computerization. Computerization will help in the way that it will be easier for family farms to place their products and basic information about themselves on the market. In computerization and increase of IT literacy, owners and members of the family farms, an important role will have Ministry of Agriculture and Agricultural Payments Agency in agriculture, fisheries and rural development.

As can be seen from Chart 1 in the last 15 years, the number of OPGs experienced a boom in 2010 and unfortunately fell until the end of 2017, but in January 2018, there were 159,349 registered family farms, an increase compared to the end of 2017.The trend line, however, shows a tendency of growth over the observed period.

Chart 1 *Number of OPG/Y*



Source: Created by Authors

2. Mobile App and Internet Store

App is a term that has slipped into jargon of Croatian citizens regardless of their demographic characteristics. According to the online edition of the Croatian encyclopedia, the application is contained in an informatics, application or user program, a set of commands and instructions that enable execution of a task, unlike system programs such as operating systems, service and auxiliary programs and programming languages. The app can be a partially specialized program such as word processing or database management, and is understood by a program tailored to just one job, or to the needs of an enterprise or a specific system.Today, the application program interface is increasingly being applied(an acronym API) as a link between an application and a computer system that defines the order and manner of performing the tasks that make up the complex program.[3]

The process in which customers buy services and products directly from the real-time merchant via the Internet also called Online Shopping. Online shopping is a form of E-commerce. Purchase of

[2]https://hrcak.srce.hr/file/50906 pristupano 20.02.2018
[3]http://www.enciklopedija.hr/natuknica.aspx?ID=3306 pristupano 26.3.2018

services and products in a physical store or a shopping center in this case replaced by an online store, online shop, web shop, web store or virtual store, with one exception, inability to touch goods.In internet store, all senses are excluded except for eyesight and sometimes hearing. Such form of products and services sales often rejects customers, but persistent work and marketing can yield results.Online buying process also called business-to-consumer (B2C) or business-to-business (B2B) online shopping, depending on whether the transactions take place between the trader and the consumer or two entrepreneurs.

3. Methodological approach

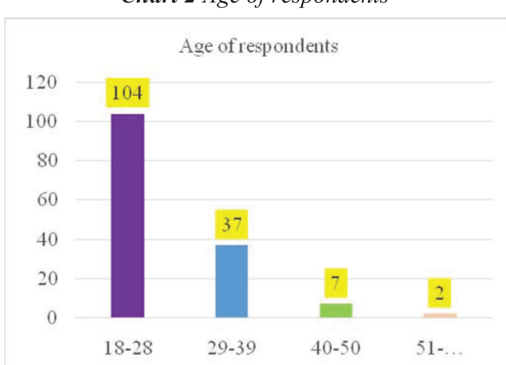
With the development of mobile applications, possibility of developing a central application, was introduced, encompassing all family farms in the republic of Croatia. Since younger population mainly use smartphone applications a survey was conducted on a sample of 150 respondents in Zagreb, Zaprešić and Samobor. Main hypotheses of paper were H1 Young people would use an application that would give them basic data about family farms. H2 Young people would use internet commerce to buy products from family farms.Auxiliary hypothesis is AH1 Young people watch what kind of food they consume.Confirmation or denial of the main and ancillary hypothesis will established through the aforementioned research.Research was divided into three main parts:

a) Demographic characteristics of respondents
b) General respondent's attitudes to food and its quality
c) Internet shopping habits and readiness to use application that would give basic data about family farms and Internet stores through which it would be possible to buy products from family farms

4. Demographic characteristics of respondents

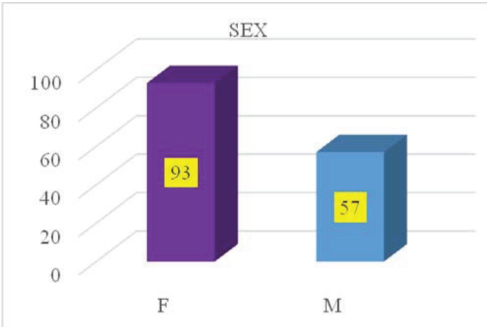
Because young population uses most of mobile apps. The survey was conducted in the capital Zagreb and two towns in Zagreb County Zaprešić and Samobor on yunger population. Of the 150 respondents, 104 or 69.33% are between 18 and 28 years of age, 37 or 24.67% of them are between 29 and 39 years of age. Seven respondents are between the ages of 40 and 50 years and there are two subjects over the age of 51. Distribution can be seen on Chart 2 Age of respondents

***Chart 2** Age of respondents*



Source: Created by Authors

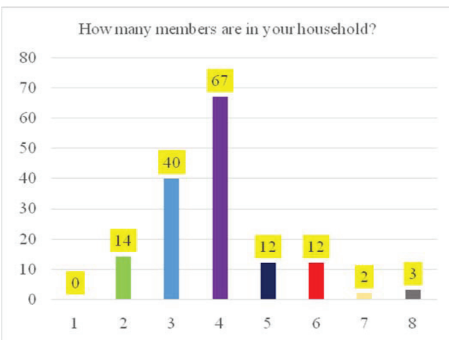
Chart 3 *Sex*



Since Croatian society is quite traditional and household falls on shoulders of female sex and as it can be seen from Chart 3, almost two thirds of the respondents were women 93 or 62%, while men respondents were slightly more than one third, 57 or 38%.

Source: Created by Authors

Chart 4 *How many members are in your household?*

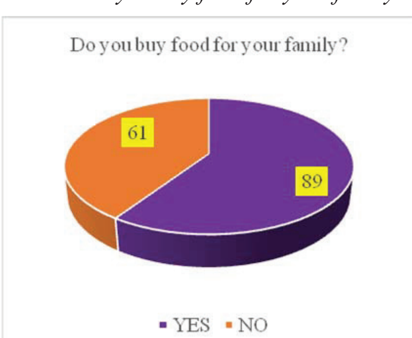


From demographic indicators it is necessary to separate number of members in respondents households.As expected, majority of respondents 67 or 44.67% live in households with 4 inmates, 40 respondents or 26.67% live in households with three inmates.Of 150 respondents, 14 or 9.33% live in households with two inmates.In household with five members live 12 or 8% of respondents as well as in six-member households.Three respondents or 2% live in households with8 members,while in households with7 members live tworespondents, which makes up 1.33% of respondents.

Source: Created by Authors

5. General respondent's attitudes to food and its quality

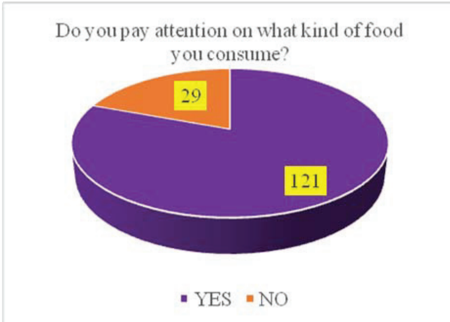
Chart 5 *Do you buy food for your family?*



The average Croatian family eats at home the meals that they prepare themselves.Accordingly, one of the goals was to investigate how many respondents are concerned about their diet, whether they buy domestic or foreign food products, and whether they are satisfied with the availability of food from family farms. Results of conducted survey confirmed the auxiliary hypothesis AH1 Young people watch what kind of food they consume. From 150 respondents 89 of them or 59.33% responded that they buy food products for their family, 61 or 40.67% responded that they do not buy food products for their family.

Source: Created by Authors

***Chart 6** Do you pay attention on what kind of food you consume?*

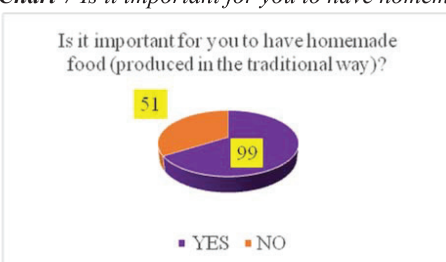


Source: Created by Authors

According to research, 121 or 80.67% respondents watch what kind of food products they buy, while 29 or 19.33% do not pay attention to what kind of food products they buy.

Two thirds respondents or 99 of them replayedthat it is important that food products are homemade and prepared in the traditional way,51 or 34% of them answered that it is not important for them that food products are homemade and prepared in the traditional way.Graphic view is visible in Chart 7 Is it important for you to have homemade food (produced in the traditional way)?

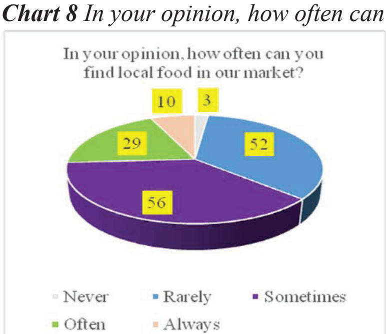
***Chart 7** Is it important for you to have homemade food (produced in the traditional way)?*



Source: Created by Authors

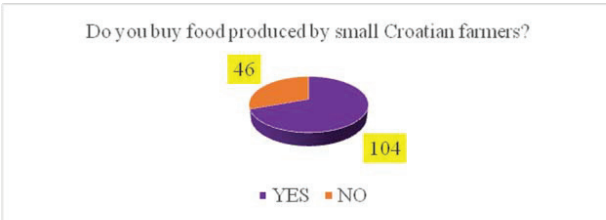
Of 150 respondents, 56 or 37.33% responded that sometimes it is possible to find nutritional products from small farms on the market, 52 or 34.67% said that it is rarely possible to find food products from small farms on the market.Twenty-nine respondents or 19.33% responded that it is often possible to find nutritional products from small farms on the market.Ten respondents or 6.67% responded that it is always possible to find food products from small agricultural holdings on the market, and 3 respondents or 2% said that they could never find nutritional products from small farms on the market.

***Chart 8** In your opinion, how often can you find local food in our market?*



Source: Created by Authors

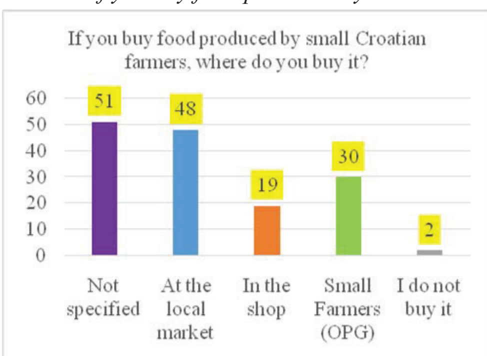
Chart 9 *Do you buy food produced by small Croatian farmers?*



104 or 69.33% respondents said that they buy food products from small farms, and 46 of them or 30.67% said that they doesn't buy food products of small farms.

Source: Created by Authors

Chart 10 *If you buy food produced by small Croatian farmers, where do you buy it?*



Of the 150 respondents, 51 or 34% didn't specified where they are buying food products from small farms, 48 or 32% of them buys at local market. Thirty or twenty percent of the respondents buy directly from family farms, 19 or 12.67% buy them in the store, and 2 respondents don't buty.

Source: Created by Authors

6. Internet shopping habits and readiness to use application that would give basic data about family farms and Internet stores through which it would be possible to buy products from family farms

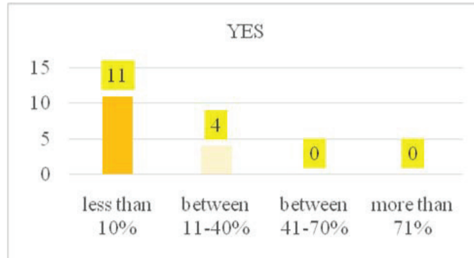
Chart 11 *Do you buy food over the internet?,*

High 89.89% or 135 respondents do not buy food over the Internet, of which 75 or 55.56% do not buy over the Internet at all. Of these 135 respondents, 54 or 40% of them buy only food if they can taste and try it. One respondent does not know that food products can buy over the internet, and five respondents believe that there is no internet store or application over which they could buy food and be certain of its quality.

Source: Created by Authors

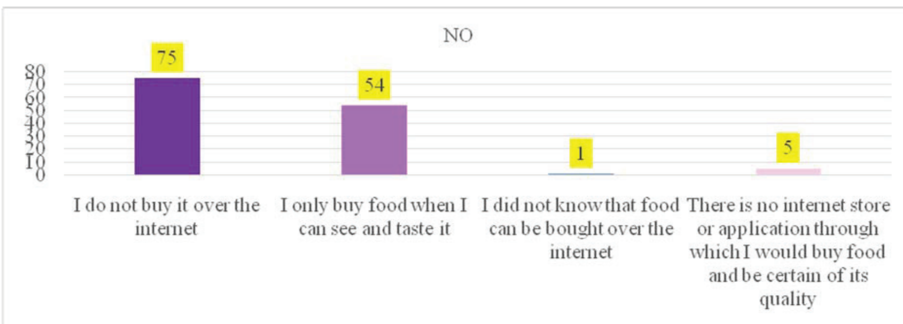
Of 15 respondents or 10% who buy food online 11 respondents, buy less than 10% of food products over the internet and 4 or 2.67% of total respondents buy between 11 and 40% of food products over the internet. Graphic views can be seen on Chart11 Do you buy food over the internet?,Chart 12 YES and13 No

***Chart 12** Yes*



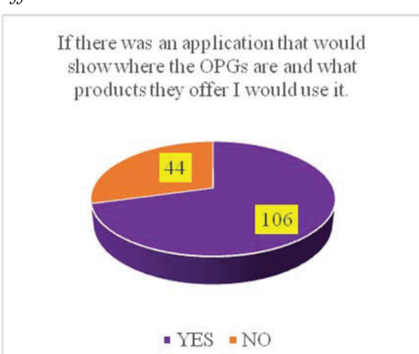
Source: Created by Authors

***Chart 13** NO*



Source: Created by Authors

***Chart 14** If there was an application that would show where the OPGs are and what products they offer I would use it.*



Source: Created by Authors

High 70.67% or 106 respondents said they would use an application that would show where family farms are and what products they offer, while 44 out of 150 respondents or 29.33% say they would not use this application.

Chart 15 *If there was an Internet store where only domestic products, from small farms, would be offered, I would buy food through it.*

Source: Created by Authors

Of 150 respondents, 101 or 67.33% stated that they would purchase food over Internet store that would offer only domestic products from small farms, while 49 or 32.67% of respondents would not use this option.

7. Conclusion

Survey confirmed two main hypotheses and auxiliary hypotheses. High 70.67% or 106 respondents said they would use an application that would show where family farms are and what products they offer, 101 or 67.33% stated that they would purchase food over Internet store that would offer only domestic products from small farms. According to research, 121 or 80.67% respondents watch what kind of food products they buy.Consequently, it may be assumed that both application and Internet store specialized in products of small agricultural family farms would be well accepted by potential consumers.

REFERENCES

Defilippis, J. (2004): ***Razvoj obiteljskih gospodarstava Hrvatske i zadrugarstvo***, in: Socoiologija sela, 43 (2005) 167 (1) p 43-59, https://hrcak.srce.hr/file/50906 (accessed 20 Februar 2018)

Grbavac, V.; Šimunović, D.; Grladinović, T. ***Mjesto i uloga elektroničkog poslovanja u izgradnji hrvatske poljodjelske sutrašnjice***. // Agriculturae Conspectus Scientificus, 67, 2 lipanj 2002. p. 69-79 https://hrcak.srce.hr/file/19017 (accessed 20 Februar 2018)

Puljiz, V.; Župančić, M. ***Obiteljska poljoprivredna gospodarstva Hrvatske*** in: Socoiologija sela, 32 (1/2) (1994) p 53-68, https://hrcak.srce.hr/file/177142 (accessed 24 Februar 2018)

https://www.zakon.hr/z/232/Zakon-o-poljoprivredi (accessed 21 Februar 2018)

http://www.enciklopedija.hr/natuknica.aspx?ID=3306 pristupano (accessed 24 Februar 2018)

http://www.apprrr.hr/(accessed 21 Februar 2018)

Ivana Sataić, PhD Candidate
J.J. Strossmayer University of Osijek
Faculty of Economics in Osijek,
Trg. Lj. Gaja 7,31000 Osijek, Croatia
Phone: +385923473501
E-mail address: ivana.sataic@gmail.com

Associate professor Robert Likić, MD, PhD
University of Zagreb
School of Medicine
Šalata3, 10000 Zagreb, Croatia
Phone: +38512388288
E-mail address: robert.likic@mef.hr

Professor Tihomir Vranešević, PhD
University of Zagreb
School of Economics and Business
Trg J.F. Kennedyja 6, 10000 Zagreb,Croatia
Phone: +38512335633
E-mail address: tvranesevic@efzg.hr

THE IMPORTANCE OF CLINICAL TRIALS WITH POTENTIAL IMPACT ON ECONOMIC GROWTH

ZNAČAJ KLINIČKIH ISPITIVANJA U ZDRAVSTVU S POTENCIJALNIM UTJECAJEM NA GOSPODARSKI RAST

ABSTRACT

The development of drugs and medical treatments requires a long period of time, substantial financial investment, and carries significant risks. The society today expects proven efficacy and safety of drugs and medical treatments. Thus, clinical trials are viewed as a corner stone of evidence-based medicine. General public is still insufficiently informed about the importance and methodology regarding clinical trials, so the potential of this branch of medicine is still not sufficiently exploited and directed at the growth of the national economy, although state and hospitals can greatly benefit from involvement in clinical trials.
Clinical trials are not only a new revenue stream for the state and hospitals but also the opportunity to provide new medicine to patients and save their lives. Recruiting patients for clinical trials is an exceptional area within the life sciences industry, however, the current methodologies employed are inefficient to the point that the appearance of new products on the market is seriously impeded, a fact which leads to significant reduction in state and corporate profits.

We examined the factors that could affect public awareness and thus influence individuals to participate in clinical trials. Many studies have already assessed why respondents agree or decline to participate in clinical trials. Using a paper-based questionnaire, the present study investigated general knowledge about clinical trials in a group of patients being treated at the Unit of Clinical Pharmacology of the University Hospital Center Zagreb, and compared it to a group of healthy

individuals, using the same questionnaire publicly available in electronic format, to better understand the attitudes of Croatian general public regarding conduct of and participation in clinical trials.
Croatian physicians and patients have been participating in international clinical trials for more than twenty years, but the capacity for clinical trial participation and related economic benefits have not reached their full potential.

Key words: *clinical trials, economic growth, perception, recruitment, participation.*

SAŽETAK

Razvoj lijeka ili medicinskog proizvoda zahtijeva dugo vremensko razdoblje ispitivanja, izdašna financijska ulaganja te nosi određeni rizik. Današnje društvo očekuje dokazanu učinkovitost i sigurnost lijekova i medicinskih proizvoda, a klinička ispitivanja najvažniji su korak u tom postupku dokazivanja, pa se smatraju najvažnijim korakom u medicini temeljenoj na dokazima.
Hrvatska javnost još uvijek je nedovoljno informirana o važnosti i načinu provođenja kliničkih ispitivanja iz čega proizlaze nepovjerenje i predrasude prema ovim ispitivanjima i prevladava nerazvijena svijest o njihovoj važnosti za razvoj medicine i napredak cjelokupnog čovječanstva. Potencijal ove grane medicine stoga još uvijek nije dovoljno iskorišten, a time ni usmjeren na rast nacionalnog gospodarstva unatoč tome što država i bolnice mogu imati značajnu korist od provođenja kliničkih ispitivanja.
Klinička ispitivanja nisu samo novi izvor prihoda za državu i bolnice već i bolesnicima pružaju nove mogućnosti u pogledu liječenja i spašavanja života. Regrutiranje bolesnika u globalna klinička ispitivanja izuzetna je grana u području prirodnih znanosti, no trenutne metode koje se koriste su neučinkovite do te mjere da je plasiranje novih proizvoda na tržište otežano, što ujedno umanjuje i dobit farmaceutskih poduzeća i države.
U ovom smo ispitivanju istražili čimbenike koji bi mogli utjecati na svijest javnosti i na taj način utjecati na odluku pojedinaca o sudjelovanju u kliničkim ispitivanjima. Prikazano istraživanje ispituje opće znanje o kliničkim ispitivanjima u skupini bolesnika koji se liječe na Zavodu za kliničku farmakologiju, koji su ispunjavali upitnik u papirnatom formatu Kliničkog bolničkog centra u Zagrebu, te ga se uspoređuje sa znanjem u skupini zdravih pojedinaca, ispitanih putem istog upitnika dostupnog u elektroničkom obliku, kako bi se bolje razumjeli stavovi hrvatske javnosti glede sudjelovanja u kliničkim ispitivanjima.
Hrvatski liječnici i bolesnici već više od dvadeset godina sudjeluju u međunarodnim kliničkim ispitivanjima, ali kapacitet za sudjelovanje u kliničkim ispitivanjima i povezana ekonomska korist još uvijek nisu maksimizirane.

Ključne riječi: *klinička ispitivanja, ekonomski rast, percepcija, regrutacija, sudjelovanje.*

1. Introduction

Nearly a third (30 percent) of the time dedicated to clinical trials is spent on patient recruitment and enrollment and 37% of all sites in a given trial fail to meet their enrollment targets, and more than 10% never enroll a single patient (Ouimet, 2017).The aim was to evaluate attitudes toward participation in clinical trials and assess differences regarding clinical trials perception associated with respondents' demographic characteristics: gender, age, educational level and residence,to show the importance of recruitment and enrollment in clinical trials process, and to associate clinical trials with economic growth. State and hospitals can greatly benefit from this branch of medicine. Clinical trials are not only a new revenue stream for the state and hospitals but also the opportunity to provide new medicine to patients and save their lives.

2. Materials and Methods

Study Population

Between February and March of 2016, a questionnaire-based survey study was conducted and in total, two hundred respondents were accrued. One hundred respondents were outpatients at the University Hospital Centre Zagreb, Department of Clinical Pharmacology, who were asked to complete a paper-based questionnaire. The other hundred respondents were healthy volunteers who submitted a publicly available, online questionnaire in electronic format. In this study, we have used a structured sampleto describe the overall population. The share of the age and gender on a sample of two hundred respondents was determined according to the data of Population Census in the Republic of Croatia in 2011 which is available freely through the Croatian Central Bureau of Statistics.

Data Collection

The authors designed a multiple-choice questionnaire. Respondents were asked to select their answers on a five-point Likert scale ranging from almost never (1) to almost always (5) to outline their attitudes regarding clinical trials. The questionnaire included was divided into 4 sections: perception of clinical trials (12), recruitment in clinical trials (8), participant related management in clinical trials (8), and willingness to participate in clinical trials (7). It also included questions regarding respondents' demographic characteristics: gender, age, educational level and settlement size. Participants who were filling the questionnaire at the Unit of Clinical Pharmacology were asked to take part in this research at the end of their visit to avoid unnecessary stress and possible coercion. After it had been made available online and used for two weeks by the outpatients at our unit, the questionnaire and its comprehensibility were checked and validated.

Statistical Analysis

Descriptive statistics with means and percentages were used to describe the obtained quantitative and qualitative data.
Participants' perception of clinical trials was analyzed in relation to their demographic characteristics with variance analysis (ANOVA) while multivariate analysis of variance (MANOVA) was used for analysis of their attitudes towards recruitment in clinical trials, customer related management and willingness to participate in clinical trials. All tests were two sided and p values of less than 0.05 were considered statistically significant.

As we obtained significant F-tests with factors that consisted of three or more means, we used Scheffe'spost test to provide specific information regarding means which were significantly different from each other. When $p > 0.05$ in Scheffe's post hoc test, we surmised that there was no significant difference between observed variables and considered them of the same importance.

3. Results

Baseline Demographics

Two hundred questionnaires were collected (50% paper based and 50% electronic). Sixty-four respondents (32%) were 20-34 years old, sixty-eight respondents (34%) were 35-49 years old and sixtyeight respondents (34%) were 50-64 years old. According to the data of Population Census in the Republic of Croatia in 2011, the surveyed respondents were matched by age and gender.

Clinical Trial Perception

Analysis of variance (ANOVA) of gender as demographic indicator of perception of clinical trials showed no significant statistical difference between female and male respondents (p = 0.111). The same was confirmed by Scheffe's post hoc test (p > 0.05). Analysis of variance (ANOVA) of age as indicator of perception of clinical trials showed that the age of the respondents does not affect their attitude towards clinical trials (Scheffe's multiple comparisons post-hoc test p > 0.05).

ANOVA of educational level as indicator of perception of clinical trials showed a statistically significant difference concerning the perception of clinical trials depending on the educational level (p = 0.000). Of the 200 respondents in this study, 22 or 11% have completed primary school, 87 or 43.5% had a high school degree, 35 or 17.5% had completed bachelor's degree(professional studies), 48 or 24% had completed bachelor's degree(university studies), and 8 or 4% had a doctoral degree.

Scheffe's post hoc test of multiple comparisons showed a significant statistical difference among respondents with a higher educational degree in comparison to those with a lower education level: doctoral degreevs elementary school diploma (p = 0.044), bachelor's degree (university studies)vs high school degree (p = 0.037), bachelor's degree(university studies)vs elementary school diploma (p = 0.000) and bachelor's degree(professional studies)vs elementary school diploma (p = 0.003), see table 1.

Table 1 *Clinical trial perception*

		Scheffe's post test
Highest completed educational level:	Highest completed educational level:	
Completed higher education	Completed primary school	,003
Completed university	Completed primary school	,000
	Completed high school	,037
Completed doctoral degree	Completed primary school	,044

Source: authors

Residence as an indicator of perception of clinical trials analyzed by ANOVA showed a significant difference in the perception of clinical trials depending on the settlement size of respondents' residence (p = 004). However, Scheffe's post hoc test of multiple comparisons has not confirmed this result, so our conclusion is that the size of the settlement of respondents' residence does not influence their perception of clinical trials.

Willingness to participate in clinical trials

Mean and multivariate analysis of variance (MANOVA) was used to indicate the most important factors influencing willingness to participate in clinical trials. Factors with highest mean values were considered most important to respondents in their decision to participate in clinical trials: to help sick members of their families (4.32), in cases when clinical trials participation does not have unwanted side-effects or endanger participants' lives (4.00), and to help their sick friends (3.71).

Multivariate analysis of variance (p = 0,000) including pairwise comparisons post hoc test (p> 0.05) demonstrated no significant difference between these three variables, thus they appear equally important in respondents' decision about their participation in clinical trials, see table 2.

***Table 2** Willingness to participate in clinical trials*

		Scheffe's post test
I would participate in clinical trials to help ill members of my family.	I would participate in clinical trials to help my ill friends.	,729
	I would participate in clinical trials if the process of clinical trial testing wouldn't have unwanted side effects or endanger my health.	,912
I would participate in clinical trials to help my ill friends.	I would participate in clinical trials to help ill members of my family.	,729
	I would participate in clinical trials if the process of clinical trial testing wouldn't have unwanted side effects or endanger my health.	,640
I would participate in clinical trials if the process of clinical trial testing wouldn't have unwanted side effects or endanger my health.	I would participate in clinical trials to help ill members of my family.	,912
	I would participate in clinical trials to help my ill friends.	,640

Source: authors

Clinical Trial Participant Related Management

Our data analysis demonstrated that the most important factors in clinical trial participant related management are: if an investigator would take care of participant's health by sending them an invitation to undertake medical testing by mail or e-mail (EKG, blood sugar level or similar) (3.34), if an investigator would reward participation in clinical trials with free health services (lab tests, general medical examination) (3.21), if participants would receive a newsletter with the trial's results (3.15), and if prior to enrollment and during the trial, participants would get answers regarding that particular clinical trial at the investigator's or trial's web page (3.14).

Multivariate analysis of variance ($p = 0,000$) including pairwise comparisons post hoc test ($p > 0.05$) showed these four participant related management variables as equally important in respondents' decision about their participation in clinical trials, see table 3.

Table 3 *Clinical trial participant related management*

Highest completed educational level:	Highest completed educational level:	Scheffe's post test
I would participate in clinical trials if investigators would continue to take care of my health by sending me invitations to do some test (EKG, bloodsugarorsimilar) by email or mail, after the end of clinical trial	I would participate in clinical trials if investigators would reward my participation with free health services (lab tests, general medical examination).	,565
	I would participate in clinical trials if I would receive a newsletter with the study's results following clinical trial end.	1,000
	I would participate in clinical trials if I could get answers to the questions about a particular clinical trial on investigator's web page.	1,000
I would participate in clinical trials if investigators would reward my participation with free health services (lab tests, general medical examination).	I would participate in clinical trials if investigators would continue to take care of my health by sending me invitations to do some test (EKG, blood sugar or similar) by email or mail, after the end of clinical trial	,565
	I would participate in clinical trials if I would receive a newsletter with the study's results following clinical trial end.	1,000
	I would participate in clinical trials if I could get answers to the questions about a particular clinical trial on investigator's web page.	1,000
I would participate in clinical trials if I would receive a newsletter with the study's results following clinical trial end.	I would participate in clinical trials if investigators would continue to take care of my health by sending me invitations to do some test (EKG, blood sugar or similar) by email or mail, after the end of clinical trial	1,000
	I would participate in clinical trials if investigators would reward my participation with free health services (lab tests, general medical examination).	1,000
	I would participate in clinical trials if I could get answers to the questions about a particular clinical trial on investigator's web page.	1,000
I would participate in clinical trials if I could get answers to the questions about a particular clinical trial on investigator's web page.	I would participate in clinical trials if investigators would continue to take care of my health by sending me invitations to do some test (EKG, blood sugar or similar) by email or mail, after the end of clinical trial	1,000
	I would participate in clinical trials if investigators would reward my participation with free health services (lab tests, general medical examination).	1,000
	I would participate in clinical trials if I would receive a newsletter with the study's results following clinical trial end.	1,000

Source: authors

Clinical Trial Recruitment

Mean and multivariate analysis of variance (MANOVA) was used to indicate the most important factors in clinical trial recruitment. Factors with highest mean values were identified as most important to respondents when deciding about their participation in clinical trials. Identified factors with highest means showed that respondents would participate in clinical trials: if recruitment would be organized in a hospital (3.35), at their family doctors' office (3.30) or through a web page designed for a specific clinical trial (3.05).

Multivariate analysis of variance (p = 0,000) including pairwise comparisons post hoc test (p > 0.05) showed that the three trials recruitment variables were all equally important in respondents' decision about their participation in clinical trials, see table 4.

Table 4 *Factors influencing respondents' clinical trial recruitment preferences*

Clinical Trials Recruitment		Scheffe's post test
I would participate in clinical trials if recruitment would be in a hospital.	I would participate in clinical trials if recruitment would be at my family doctor's office.	1,000
	I would participate in clinical trials if recruitment would be through the web page of a particular study.	,199
I would participate in clinical trials if recruitment would be at my family doctor's office.	I would participate in clinical trials if recruitment would be in a hospital.	1,000
	I would participate in clinical trials if recruitment would be through the web page of a particular study.	,724
I would participate in clinical trials if recruitment would be through the web page of a particular study.	I would participate in clinical trials if recruitment would be in a hospital.	,199
	I would participate in clinical trials if recruitment would be at my family doctor's office.	,724

Source: authors

4. Conclusion

People who participate in clinical trials do so for different reasons.[12] This study confirms that there is an average level of support and willingness in Croatian population to participate in clinical trials. It has already been demonstrated that more intensive clinical care and monitoring during clinical trials have beneficial psychological effects for participants and positively influence their decision to participate in upcoming clinical trials(Drennan, 2002; 7:167-170).Therefore, it is necessary to improve recruitment methodology and rely on resources that are close to the public and patients, as well as on those that can improve patients' knowledge about clinical trials(Stepan, et.al., 2011, 64-71).

Although some earlier studies showed that most respondents had a negative image of clinical trials (Ellis, Butow, 1998, 528-531), our results suggest otherwise. Prior studies demonstrated that the positive reasons for taking part in clinical trials are often related to contributing to science and benefits for future generation(Cassileth, et.al, 1982:968-970), hope that patients will receive the best possible treatment(Ellis, et.al, 2001, 3554-3561)or better treatment in comparison with current therapy(Schaeffer, et. al., 1996, 261-268).Our study showed that in Croatia, people are more willing to participate in clinical trials to help sick members of their families, when the clinical trial procedure does not have unwanted side effects or endanger their lives, or so that they could help their sick friends.

In addition, information desired by patients is also an important factor in deciding about participation in clinical trials. Previous studies showed that most patients wanted to receive all of the available information during the clinical trial process(Ellis, et al., 1999, 33-43).Our research shows a higher level of willingness to participate in clinical trials among respondents if the investigator would take care of participant's health by sending them invitations by email or mail to undertake medical tests (EKG, blood sugar level or similar), if a trial investigator would reward participants in clinical trials with free health services (lab tests, general medical examination), or if participants would receive newsletters with trial results, and if prior to enrollment and during the trial they would get answers to questions concerning that particular clinical trial research at the investigator's or the trial's web page. No significant associations between demographic factors (gender, age, educational level, size of the settlement) and participant related management in clinical trials were identified.

Recruitment is considered as one of the pivotal steps in clinical trial process(Chang, et.al., 2002, 2681-2687). Successful recruitment may depend on how a patient is approached about participation(Connolly, et al., 2004:610-614).Our study shows that respondents' level of willingness to participate in clinical trials is higher if recruitment methods make use of: recruitment in hospitals, recruitment at the family doctor's offices or recruitment through the web page designed for a specific clinical trial. Again, we found no significant associations between demographic factors (gender, age, educational level, size of the settlement) and recruitment methods. The demonstrated positive influence of lower age and higher education level on clinical trials knowledge and willingness to participate has already been confirmed earlier (Cameron, et.al., 2013:193-205).Participation in international clinical trials may result in health, financial, and intangible benefits that contribute to the sustainability of health care systems, especially in countries with severe resource constraints (Kalo, et.al, 2014, 446-451).
Clinical trial activity also provides significant benefits to state and local economies in terms of economic impact generated through activities such as development of clinical trial protocols; selection of clinical trial sites; implementation trials including the recruitment of staff, contractors, vendors, and patient volunteers; manufacture of small batches for testing; patient care, and analysis of the enormous amount of data generated –just to name some of the activities occurring at particular trial sites which require significant expenditures by biopharmaceutical companies and their vendors and contractors (Phrma, 2016).

REFERENCES

Cameron P. et al. (2013): ***A comparison of patient knowledge of clinical trials and trialist priorities,***Curr Oncol 2013; 20:e, pp. 193-205.

Cassileth B.R. et al. (1982): ***Attitudes toward clinical trials among patients and the public,*** JAMA, 248:248, pp. 968-970.

Chang S.M. et al.(2002): ***Clinical trial participation among patients enrolled in the Glioma Outcomes Project***, Cancer, 94(10), pp. 2681–2687.

Connolly N.B. etal(2004): ***Improving enrollment in cancer clinical trials*, **Oncol Nurs Forum 2004 May; 31(3), pp. 610-614.

Drennan K.B. (2002):***Patient recruitment: the costly and growing bottleneck in drug development.***Drug Discov Today, 7, pp. 167-170.

Ellis P.M., Butow P.N. (1998): ***Focus group interviews examining attitudes to randomized trials among breast cancer patients and the general community,***Aust N Z J Public Health; 22, pp. 528-531.

Ellis P.M. et al. (1999): ***Attitudes to randomized clinical trials amongst out-patients attending a medical oncolgy clinic***, Health Expect; 2, pp. 33-43.

Ellis P.M. et al. (2001): ***Randomized clinical trials in oncology: understanding and attitudes predict willingness to participate,***J Clin Oncol., 19, pp. 3554-3561.

Kalo Z. et al. (2014): ***Contribution of clinical trials to gross domestic product in Hungary***, Croat Med J., 55(5), pp. 446-51.

Schaeffer M.H. et al.(1996): ***The impact of disease severity on the informed consent process in clinical research***,AM J Med., 100, pp. 261-268.

Stepan, K.A. etal. (2011): ***Recommendations For Enhanching Clinical Trials Education: a Review of the Literature***, Journal of Cancer Education, Volume 26, Issue 1, pp 64-71.

Ouimet T. (2017): ***Patient recruitment in the age of social media,***http://www.clinicaltrialsarena.com/news/technology/patient-recruitment-in-the-age-of-social-media-5896524 (acessed: 10 December 2017)

Phrma, http://phrma-docs.phrma.org/sites/default/files/pdf/biopharmaceuticaul-industry-economic-impact.pdf (accessed: 15December 2017)

Mladen Turuk, Ph.D.
University of Zagreb, Faculty of Economics and Business
Zagreb, J. F. Kennedy Sq. 6
Phone: +385-1-2383-107 Fax: +385-1-2383-333
E-mail address: mturuk@efzg.hr

THE IMPORTANCE OF DIGITAL ENTREPRENEURSHIP IN ECONOMIC DEVELOPMENT

ZNAČAJ DIGITALNOG PODUZETNIŠTVA U RAZVOJU GOSPODARSTVA

ABSTRACT

The development of digital technologies leads to changes in existing business models and the creation of new ones, the introduction of new products and services, and the increase in the efficiency of business processes and therefore making enterprises more competitive. This is also reflected in the increase in the competitiveness of the local and national economy. Transformation of existing economies into digital represents a significant opportunity for the accelerated growth of the local and national economy, whose drivers are small and medium-sized enterprises. The digital economy in the European Union is growing much faster than the rest of the economy, which will lead to the creation of more jobs and the continuation of the digital transformation of the European economy. The Republic of Croatia, to a lesser extent, recognizes the potential that lies in the development of digital technologies and their impact on business activities. The role of the state in this regard is to ensure a high quality legislative and infrastructure environment for the development of digital business, to encourage the development of digital jobs, to strengthen financial instruments intended to finance the digitization of existing business or the development of new technology-based business, and to promote the importance of digital technologies. This would affect the attractiveness of investments in the technology sector, often referred to as the sector of above-average growth potential. The impact of technology on the business is inevitable, and for enterprises it is crucial to accept the emerging market conditions and dynamic business environment or invest in the digitization of business and the integration of new technologies into their business models. Enterprises that fail to adapt adequately to the digital environment will inevitably face a decline in competitiveness, and some of them may face the very survival on the market. The aim of this paper is to examine the use of digital technologies in business and to argue the importance of using them for the growth and development of an enterprise, and to emphasize the importance of digitization for local development and the strengthening of the national economy as a whole.

Key words: *Digitalization, Digital Entrepreneurship, New Technologies, Economic Development.*

SAŽETAK

Razvoj digitalnih tehnologija dovodi do promjena postojećih i stvaranja novih poslovnih modela, uvođenja novih proizvoda i usluga te porasta efikasnosti poslovnih procesa, čime poduzeća postaju konkurentnija. Navedeno se odražava i na porast konkurentnosti lokalnog i nacionalnog gospodarstva. Transformacija postojećih gospodarstava u digitalna predstavlja značajnu priliku za ubrzani rast lokalnog i nacionalnog gospodarstva čiji su pokretači mala i srednja poduzeća. Digitalna ekonomija u Europskoj uniji raste znatno brže od ostatka ekonomije što će dovesti do otvaranja većeg broja radnih mjesta, odnosno nastavka digitalne transformacije europskog gospodarstva. Republika Hrvatska u nedovoljnoj mjeri prepoznaje potencijal koji leži u razvoju *digitalnih tehnologija i njihovom utjecaju na poslovne aktivnosti. Uloga države u tom smislu je osigurati što kvalitetniju legislativnu i infrastrukturnu okolinu za razvoj digitalnog poslovanja, poticati razvoj digitalnih radnih mjesta, jačati financijske instrumente namijenjene financiranju digitalizacije postojećeg poslovanja ili razvoju novog poslovanja temeljenog na tehnologiji, te promovirati važnost digitalnih tehnologija. Navedeno bi utjecalo na privlačenje investicija u tehnološkom sektoru, često označavanom kao sektoru iznadprosječnog potencijala rasta. Utjecaj tehnologije na poslovanje je neizbježan te za poduzeća od presudne važnosti postaje prihvatiti novonastale tržišne uvjete i dinamičnu poslovnu okolinu, odnosno ulagati u digitalizaciju poslovanja i integraciju novih tehnologija u svoje poslovne modele. Poduzeća koja se ne uspiju adekvatno prilagoditi digitalnom okruženju neminovno će se suočiti s padom konkurentnosti, a kod određenih se poduzeća može pojaviti i pitanje samog opstanka na tržištu. Cilj rada je ispitati korištenje digitalnih tehnologija u poslovanju te argumentirati značaj korištenja istih za rast i razvoj poduzeća, odnosno naglasiti značaj digitalizacije za lokalni razvoj i jačanje nacionalnog gospodarstva u cjelini.*

Ključne riječi: *Digitalizacija, Digitalno poduzetništvo, Nove tehnologije, Razvoj gospodarstva.*

1. Introduction

The world is continuously changing and the use of digital technologies becomes a fundamental part of our living and working environment. What we are experiencing is digital transformation of existing businesses where the development of digital technologies leads to changes in existing business models and the creation of new ones. The digital economy is developing rapidly. The digital economy already contributes up to eight per cent of GDP in G-20 economies, empowering growth and creating jobs. In Europe, studies have shown that SMEs grow two to three times faster, creating new jobs, when they embrace novel digital technologies (European Commission, n.d.). Digital economy in general, refers to an economy that is based on digital technologies. OECD (2012, 1) defines the digital economy as the one that “enables and executes the trade of goods and services through electronic commerce on the Internet.” Deloitte (n.d.) refers to digital economy as “the economic activity that results from billions of everyday online connections among people, businesses, devices, data, and processes. The backbone of the digital economy is hyper connectivity which means growing interconnectedness of people, organisations, and machines that results from the Internet, mobile technology and the Internet of things (IoT).” The digital economy is sometimes called the New Economy, Internet Economy or Web Economy. The digital economy significantly contributes to GDP in developed countries and digital entrepreneurs could be one of the growth generators for developing countries.

Digital entrepreneurship is “a subcategory of entrepreneurship in which some or all of what would be physical in a traditional organization has been digitized” (Hull, Hung & Hair, 2006, 4). Thus, “digital entrepreneurship implies entrepreneurship, or new value creation, involving digital goods or services, digital distribution, a digital workplace, a digital marketplace, or some combination of these. This entrepreneurial activity relies on information technology to create market, distribute, transform or (in the case of digital services) perform the product” (Ibid., 7). Digital entrepreneurship most commonly refers to “the process of creating a new or novel Internet enabled/delivered business, product or service. This definition includes both start-ups – bringing a new digital product or service to market – but also the digital transformation of an existing business activity inside a firm or the public sector” (van Welsum, 2016, 1). Davidson & Vaast (2010, 8) suggest that digital entrepreneurship is the practice of pursuing “new venture opportunities presented by new media and internet technologies”. Without the new technologies, digital entrepreneurs would be unable to deliver their products or services, and in some cases the business model itself could not exist without information technology. The sector of information and communication technology remains a key driver of innovation and a sector with huge growth potential. As such, the Government of the Republic of Croatia should recognize it as one of the priority sectors of the Croatian economy.

2. An insight into the digital economy in the Republic of Croatia

In order to track the progress of the digital economy in the European Union, European Commission introduced the digital scoreboard. The digital scoreboard includes data from the Digital Economy and Society Index (DESI) and the European Digital Progress Report (EDPR). The Digital Economy and Society Index (DESI) is a composite index that summarizes relevant indicators on Europe's digital performance and tracks the evolution of EU member states in digital competitiveness (Table 1).

Table 1 *DESI structure*

Dimension	Sub-dimension	Indicator
1 Connectivity	1a Fixed Broadband	1a1 Fixed Broadband Coverage
		1a2 Fixed Broadband Take-up
	1b Mobile Broadband	1b1 Mobile Broadband Take-up
		1b2 4G coverage
		1b3 Spectrum
	1c Speed	1c1 NGA Coverage
		1c2 Subscriptions to Fast Broadband
	1d Affordability	1d1 Fixed Broadband Price
2 Human Capital / Digital Skills	2a Basic Skills and Usage	2a1 Internet Users
		2a2 At Least Basic Digital Skills
	2b Advanced skills and Development	2b1 ICT Specialists
		2b2 STEM Graduates
3 Use of Internet	3a Content	3a1 News
		3a2 Music, Videos and Games
		3a3 Video on Demand
	3b Communication	3b1 Video Calls
		3b2 Social Networks
	3c Transactions	3c1 Banking
		3c2 Shopping
4 Integration of Digital Technology	4a Business digitization	4a1 Electronic Information Sharing
		4a2 RFID
		4a3 Social Media
		4a4 eInvoices
		4a5 Cloud
	4b eCommerce	4b1 SMEs Selling Online
		4b2 eCommerce Turnover
		4b3 Selling Online Cross-border
5 Digital Public Services	5a eGovernment	5a1 eGovernment Users
		5a2 Pre-filled Forms
		5a3 Online Service Completion
		5a4 Open Data

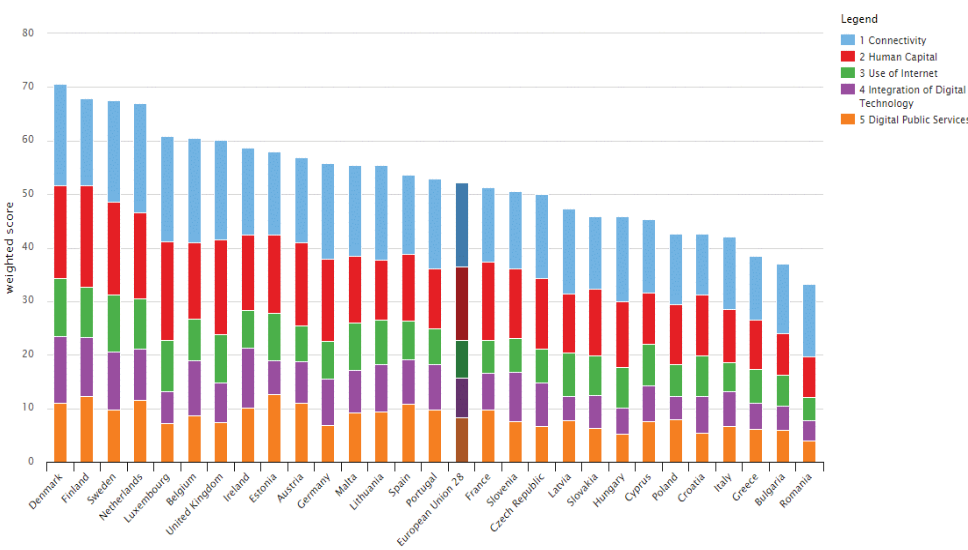
Source: European Commission (2017)

DESI overall index is calculated as the weighted average of the five main DESI dimensions: 1) Connectivity (25%), 2) Human Capital/Digital Skills (25%), 3) Use of Internet (15%), 4)

Integration of Digital Technology (20%) and 5) Digital Public Services (15%). *The Connectivity dimension* measures the deployment of broadband infrastructure and its quality. *The Human Capital dimension* measures the skills needed to take advantage of the possibilities offered by a digital society. Such skills go from basic user skills that enable individuals to interact online and consume digital goods and services, to advanced skills that empower the workforce to take advantage of technology for enhanced productivity and economic growth. *The Use of Internet dimension* accounts for the variety of activities performed by citizens already online. Such activities range from consumption of online content (videos, music, games, etc.) to modern communication activities or online shopping and banking. *The Integration of Digital Technology dimension* measures the digitization of businesses and their exploitation of the online sales channel. By adopting digital technology businesses can enhance efficiency, reduce costs and better engage customers, collaborators and business partners. Furthermore, the Internet as a sales outlet offers access to wider markets and potential for growth. *The Digital Public Services dimension* measures the digitization of public services, focusing on eGovernment. Modernization and digitization of public services can lead to efficiency gains for the public administration, citizens and businesses alike as well as to the delivery of better services for the citizen (European Commission, 2015).

The EDPR report combines the quantitative evidence from DESI (Digital Economy and Society Index) with country-specific policy insights, allowing to keep track of the progress made in terms of digitalization by each Member State and providing an important feedback for policy-making at EU level. The Republic of Croatia belongs to the low performing cluster of countries, with Romania, Bulgaria, Greece, Italy, Croatia, Poland, Cyprus, Hungary and Slovakia. According to Europe's Digital Progress Report (EDPR) (2017) Croatia ranks 24th out of the 28 EU Member States. Overall, in 2017 it progressed slowly compared to 2016, but fell from rank 23 to rank 24 because other countries made faster progress (Figure 1, Table 2).

***Figure 1** Digital Economy and Society Index, by Main Dimensions of the DESI (European Commission, Digital Scorecard)*



Source: European Commission, Digital Scoreboard (2017)

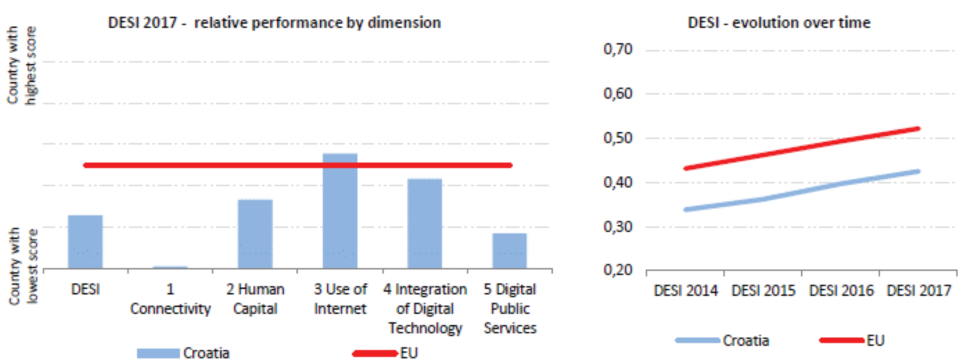
Table 2 DESI rank

DESI	Croatia		Cluster	EU
	rank	score	score	score
DESI 2017	24	0.43	0.41	0.52
DESI 2016	23	0.40	0.38	0.49

Source: Europe's Digital Progress Report (EDPR) (2017)

Concerning the integration of digital technology DESI dimension, the use of digital technologies by firms in the Republic of Croatia is close to the EU average. Firms are above average users of Cloud Services (16%, rank 9), while the turnover of SMEs selling online is increasing and is above the EU average. Digital Public Services are slowly improving: Croatia is performing above average on the availability of Open Data but the number of eGovernment users is only slowly increasing and there is no progress in the delivery of services. The country's greatest challenge in digital is its low performance in connectivity. Rural broadband connectivity and fast broadband coverage are limited. Furthermore, prices for fixed broadband remain extremely high (Europe's Digital Progress Report (EDPR) (2017)). In all the components of DESI index the performance of the Republic of Croatia is below EU average, except the Use of Internet component. The evolution of DESI index over the last four years is positive but however, it evolves slower than the other Member States (Figure 2).

***Figure 2** Digital Economy and Society Index, by Main Dimensions of the DESI (European Commission, Digital Scorecard)*



Source: European Commission, Digital Scoreboard (2017)

Since recently, the Republic of Croatia has tried to make some progress in digital transformation. In 2015, the Government of the Republic of Croatia adopted the Decision on the Establishment of the National Council for the Digital Economy. The National Council for the Digital Economy aims to establish an active partnership of developing stakeholders' digital economy, by defining goals and priorities for creating a single digital market. The Council acts as advisory body of the Government of the Republic of Croatia in the transformational processes of the economy that imposes the development of digital technologies. The Council is chaired by a representative of the Ministry of Economy, and consists of representatives of businessmen, educational institutions, professional associations, non-governmental organizations and public authorities. The Council may provide support in the process of continuous entrepreneurial disclosure in this specific area, particularly in the case of further development of more detailed strategic directions of research, development and innovation that will focus only on certain selected segments and areas of application of ICT (Government of the Republic of Croatia, 2016, 159). In 2016, Government of the Republic of Croatia introduced the Strategy for the smart specialization of the Republic of Croatia for the period from 2016 to 2020 and an action plan for the implementation of the smart specialization strategy for the Republic of Croatia for the period 2016 to 2017, which was one of the first formal documents recognizing the importance of digital technologies and their potential effect on the economy overall. This progress, is according to the DESI rank, slower than the progress of the other EU Member States.

3. The importance of digital entrepreneurship in the local context

Entrepreneurship plays significant role in economic growth and living standard of the local community. By doing the best for their businesses, entrepreneurs empower local community, counties, and national economy as a whole. Entrepreneurs, opposed to job seekers, are job creators, who aside from employing themselves, employ local population and hence, increase their purchasing power. Rise of their firms lead to increased standard of living of local community. By doing their business activity, entrepreneurs engage local resources and other firms, allowing them to be a part of their supply chain, and therefore relocating capital and investments to local communities. The rise in entrepreneurial activity in less developed areas lead to infrastructural improvements, such as roads, better water and electric supply and other facilities that would not otherwise be available, as well.

Duspara, Knežević & Duspara (2016) emphasize the importance of implementing strategies that lead to sustainable competitive advantage and sustainable development based on new technologies, knowledge and investments, and providing legal and administrative support to small entrepreneurs in developing of their ideas. Greater use of advanced digital technologies by SMEs can boost both growth and employment (The Boston Consulting Group, 2013). Van Welsum (2016, 1) explains that digital entrepreneurship "may level the playing field in certain sectors, creating opportunities to work from remote areas, at different hours, from the home, or on the go. It can play an important role in promoting gender equality and social and economic inclusion, stimulate local development, and contribute to sustainable development, especially when new technologies are combined with the availability of open and public data." Novel technological trends, "such as mobile and social solutions, cloud computing, data analytics, digitisation of manufacturing, including digital technologies for the design, prototyping and testing of industrial products, as well as collaborative technologies, offer a new range of opportunities for business services in the knowledge economy" (European Commission, n.d., 1).

Digital enterprises are different from traditional enterprises because they rely on different business models and fully of the digital technology to pursue their products and services, as well as marketing and distribution activities. Advances in digitisation and developments in information and communication technologies is changing the business environment, transforming business practices and creating opportunities for new types of entrepreneurial activities (Ngoasong, 2015). Compared to starting a new venture in the non-digital arena, "it is easy to become a digital entrepreneur. For example, the time required to create a website that sells existing products is comparatively short" (Hull, Hung & Hair, 2006, 8). Because it can be so easy, "many entries exhibit appallingly low quality and poor customer service making it hard for the quality digital entrepreneurs to succeed" (Ibid., 8). Entrepreneurs need to understand the pros and cons of digital entrepreneurship and how these differ from those associated with traditional entrepreneurship. Digital technologies offer "tremendous growth opportunities but require entrepreneurs to fully unlock their economic potential as the basis of new businesses or an enabler of the transformation of already established firms" (van Welsum, 2016, 7). Many digital entrepreneurs born locally have the ability to grow across borders very quickly. The skills to identify new technology-enabled business opportunities are key to successful digital entrepreneurship.

The Republic of Croatia is still at the beginning of the potential of digital growth. This is a great opportunity for the local enterprises to leverage their businesses and hence, their local communities, with the smart use of the latest technologies. In order to support digital entrepreneurship within the EU, European Commission has developed a digital entrepreneurship policy framework, structured along five pillars describing key factors of digital entrepreneurship. These pillars are: 1) Digital knowledge base and ICT market, 2) Digital business environment, 3) Access to finance, 4) Digital skills and e-leadership and 5) Entrepreneurial culture (Table 3).

Table 3 *Five pillar plan to enable digital entrepreneurs*

ENABLING DIGITAL ENTREPRENEURS				
Digital knowledge base and ICT market	**Digital business environment**	**Access to finance**	**Digital skills and e-leadership**	**Entrepreneurial culture**
Enhancing digital innovation, commercialization and the ICT sector	*Strengthening digital infrastructure, the regulatory framework and improving ease of doing business*	*Facilitating access to finance and enhancing digital investments*	*Fostering e-leadership skills through education and training*	*Creating a supportive entrepreneurial culture*
➢ Public and/or private sector support the creation of new companies and foster the development of existing ones that embrace digital ➢ Knowledge diffusion to enhance digital innovation is encouraged ➢ ICT sector acts as an engine for diffusion and commercialization of new services/ideas	➢ A clear and supportive regulatory environment makes doing digital business simple, market entry is facilitated and there is an active and dynamic supply and demand of digital technologies ➢ Access to and trust in digital markets is heightened as a result of an improved ICT infrastructure	➢ Enhanced access to finance is available, targeted at the creation, survival and growth of digital entrepreneurs ➢ Traditional forms of lending are complemented by innovative mechanisms targeted at enhancing digital investments ➢ Fiscal and tax frameworks are supportive and help to enable all business to embrace digital technologies	➢ A supportive education system exploits the new opportunities arising from ICT development, so individuals have the skills and the knowledge to improve business efficiency and develop new business models powered by digital ➢ Entrepreneurs and business leaders are more e-competent and able to enhance growth and internationalization	➢ The entrepreneurial culture is more supportive and embraces digital entrepreneurs. They are fully integrated in this context and their image and role in society are both improved and emphasized

Source: European Commission (n.d., 3)

The aims of the framework are to enhancing digital innovation, commercialization and the ICT sector; strengthen digital infrastructure, the regulatory framework and improve ease of doing business; facilitate access to finance and enhance digital investments; foster e-leadership skills through education and training and create a supportive entrepreneurial culture. According to van Welsum (2016, 1) the main barriers to digital entrepreneurship include: "skills, infrastructure, and various aspects of the business environment. In many parts of the world, access to affordable, reliable, high-speed broadband infrastructure is still a problem, including in parts of developed countries. It is also important to create a dynamic and competitive digital business environment and address concerns around digital entrepreneurship conditions in order to enable the creation of online services and applications". Low fixed broadband coverage in the Republic of Croatia, especially in the rural areas (rank 19) and the highest fixed broadband price (rank 28) in the European Union, highly contribute to lower rates of digitally oriented business in smaller, local communities.

4. Conclusion

Digital technologies offer great growth opportunities for enterprises and, hence, local communities. The development of the digital economy and digital entrepreneurship primarily depends on the use of digital technologies by individuals, firms and governments. The role of policy makers in creating conditions for development and growth of new digital business models is critical. Governments and political leaders should make it a priority to encourage SMEs to implement the latest digital technologies in their everyday operations in order to exploit the full economic benefits. The Republic of Croatia should recognize digital economy as strategic part of the economy and seek to ensure the right conditions to improve the policy frameworks, institutional support, introduce employment benefits and financing initiatives that support entrepreneurship in digital economy. Ensuring affordable high-speed access to the fixed broadband infrastructure, especially in rural areas is critical step in removing barriers to doing business and to enable digital entrepreneurs to unlock their economic potential. By starting new businesses, entrepreneurs help in creating jobs, and contribute to common goals, such as local and national GDP growth, rise in exports, rise in the standard of living, local community skills and infrastructural development etc. New businesses in digital economy have even more effects, due to their huge growth potential. Traditional entrepreneurs should make efforts to create transformation of existing products, services and business model into digital while the Republic of Croatia should make harder efforts in order to improve the policy frameworks, technical skills and development programs, and facilitate access to finance for initiatives that support entrepreneurship in the digital economy. The ultimate goal of these efforts is to improve competitiveness, attract investment, and to create jobs in this fast-growing branch of the economy. Adoption of the new technologies is neither restricted to ICT businesses, nor it is only for newly born enterprises. Technologies can and should be used by existing and traditional business in order to digitally transform their activities in all areas. Those entrepreneurs who do not go along with the transformation process will lose their competitive positions on the market and may face consequences.

REFERENCES

Davidson, E. & Vaast, E. (2010): ***Digital Entrepreneurship and its Sociomaterial Enactment***, Paper presented at 43rd Hawaii International Conference on System Sciences (HICSS), 5-8 January 2010.

Deloitte (n.d.): ***What is Digital Economy? Unicorns, Transformation and the Internet of Things***, https://www2.deloitte.com/mt/en/pages/technology/articles/mt-what-is-digital-economy.html, (accessed 15 March 2018)

Duspara, L., Knežević, S. & Duspara, M. (2016): ***Structure of Manufacturing Enterprises and Their Impact on Economy in Brodsko Posavska County***, in: 5. Medunarodni znanstveni simpozij "Gospodarstvo istocne Hrvatske – Vizija i razvoj" – 5th International Scientific Symposium "Economy of Eastern Croatia – Vision and Growth", Osijek, June 2-4, 2016, pp. 155-162

European Commission (2015): ***The Digital Economy and Society Index (DESI)***, https://ec.europa.eu/digital-single-market/en/desi (accessed 8 March 2018)

European Commission (2017): ***DESI 2017 – Digital Economy and Society Index Methodological Note***, Bruxelles, March 2017

European Commission (n.d.): ***Strategic Policy Forum on Digital Entrepreneurship – Fuelling Digital Entrepreneurship in Europe***, https://ec.europa.eu/growth/industry/policy/digital-transformation/strategic-policy-forum-digital-entrepreneurship_en (accessed 31 March 2018)

European Commission, Digital Scoreboard (2017): ***DESI by components***, https://digital-agenda-data.eu/charts/desi-components (accessed 9 March 2018)

European Digital Progress Report (EDPR) (2017): ***Country Profile Croatia***, http://ec.europa.eu/newsroom/document.cfm?doc_id=44292 (accessed 9 March 2018)

Government of the Republic of Croatia (2016): ***Strategy for the smart specialization of the Republic of Croatia for the period from 2016 to 2020 and an action plan for the implementation of the smart specialization strategy for the Republic of Croatia for the period 2016 to 2017***, NN 32/2016, http://www.obzor2020.hr/userfiles/obzor2020/pdfs/Strategija_pametne_specijalizacije_RH_2016_2020.pdf (accessed 8 March 2018)

Hull, C., Hung, Y-T. & Hair, N. (2006): ***Digital Entrepreneurship***, EDGE, Rochester Institute of Technology – RIT Scholar Works, pp. 1-29

Ngoasong, M. Z. (2015): ***Digital Entrepreneurship in Emerging Economies: The Role of ICTs and Local Context***, 42nd AIB-UKI Conference Proceedings, 16-18 April 2015, Manchester Metropolitan University, UK, pp. 1-27

OECD (2012): ***The Digital Economy***, http://www.oecd.org/daf/competition/The-Digital-Economy-2012.pdf (accessed 5 March 2018)

The Boston Consulting Group (2013): ***Ahead of the Curve – Lessons on Technology and Growth from Small-Business Leaders***, http://image-src.bcg.com/Images/Ahead_of_the_Curve_Oct_2013_tcm9-94245.pdf (accessed on 29 March 2018)

van Welsum, D. (2016): ***Enabling Digital Entrepreneurs***, World Development Report, Background Paper – Digital Dividends, pp. 1-12

Edward A. Veckie, MBA, P.Eng.
PhD Candidate at Faculty of Economics
J.J. Strossmayer University, Osijek
Unified Engineering.com Corp.
171 Niagara Street, Hamillton
Ontario, Canada L8L 6A8
Phone: +1 905 523-1700
E-mail address: edward.veckie@gmail.com

Vlad Walter Veckie, B.Sc.Eng., P.Eng.
PhD Candidate at Faculty of Economics
J.J. Strossmayer University, Osijek
Unified Engineering.com Corp.
171 Niagara Street, Hamillton
Ontario, Canada L8L 6A8
Phone: +1 905 523-1700
E-mail address: walterv@unifiedengineering.com

Anka Mašek Tonković, PhD
Professor at Faculty of Economics
J.J. Strossmayer University
3100 Osijek, Croatia
Phone: +385 31 224-490
E-mail address: masek.efos@gmail.com

COMPANY'S SUSTAINABILITY WITH CSA N299[1] NUCLEAR QUALITY PROGRAM ACCREDITATION

ODRŽIVOST TVRTKE AKREDITACIJOM PREMA PROGRAMU KVALITETE CSA N299[1] ZA NUKLEARKE

ABSTRACT

For companies operating under the nuclear program, there are strictly prescribed quality standards that must be met. Companies that can prove their programs and documents comply to the high level of quality requirements, have capable human potential with experience and knowledge, financial strength, innovation, creativity potential can be accredited to compete in Nuclear Quality Assurance (NQA)[2] Standards.
Quality, environmental, occupational health and safety management systems are part of an Integrated Management System (IMS)[3] and also includes employee training as a decisive element of promoting corporate sustainability of a socially responsible organization. Various industries such

[1] CSA N299 (Canadian Standard Association Nuclear Standard) http://www.nuclearsafety.gc.ca/eng/pdfs/Presentations/CNSC_Staff/2016/20160119-management-system-and-quality-eng.pdf
[2] NQA (Nuclear Quality assurance) https://www.iaea.org/NuclearPower/Downloadable/Meetings/2014/2014-12-15-12-19-TM-NPE/DAY1/7_Douglas-ASME.pdf
[3] IMS (Integrated Management System) http://integrated-standards.com/articles/what-is-integrated-management-system/

as Nuclear Power Generation have stringent certifications which are barriers to entry for potential suppliers.

For companies operating under the nuclear program there are strictly prescribed quality standards that must be adhered to. These programs and procedures conform to a high level of workmanship and quality assurance therefore they require experienced and knowledgeable personnel and financial strength to be able to maintain these NQA standards.
Hence, the sustainability or survival of a company in the present and the future depends, inter alia, on obtaining and maintaining necessary certifications in order to be accepted as part of the Nuclear supply chain. This requires constant engagement and investing in educating employees to achieve innovativeness and creativity to pursue the highest production standards to successfully compete regionally and globally.

Once a company receives NQA's regulatory body qualification approval, they are given the opportunity to compete as contractors and suppliers within the nuclear and power generation industry. One of the most important components of company success is training and development program of existing employees and new talents. Labor force expertise and competence are important components in global competitiveness. Additionally, a significant component of the program is research and development, as well as planned upgrades of future development in the company itself. Those are considered key drivers of technological innovation and economic advancement, especially in regional economies.
A planned upgrade could be to obtain a more stringent quality certification which in turn would raise a company's competitiveness. The ability to stay above other lower quality suppliers especially when vying for work in the Nuclear market. Nuclear Quality Standards such as CSA N299 which is a recognized Canadian Nuclear Standard in which EU companies have attained this standard as suppliers to the Canadian nuclear industry.

This paper outlines the strategic guidelines for achieving the status of an authorized company to be part of the supply chain in accordance with the most stringent NQA Standards. Work on the program requires a good analysis of the current state of the company's financial, competence, ability to innovate, and successful previous projects.

The aim of the paper is to analyze the economic impact of IMS and how the implementation of quality standards contributes to sustainable development in competitive global business. At the same time this work could be initiated by suppliers from the Republic of Croatia in order to estimate the possibility of access to exclusive suppliers for the Canadian nuclear market.
In our research the method of comparative analysis and synthesis of research results were used.

Key Words: *Integrated Management System (IMS), Nuclear Quality Assurance (NQA), sustainability, innovation, human resources, competitiveness.*

SAŽETA K

Za tvrtke koje posluju u sklopu nuklearnog programa, postoje strogo propisani standardi kvalitete koji se moraju ispuniti. Tvrtke koje mogu dokazati svojim programom i dokumentacijom da mogu zadovoljiti visoku razinu zahtjevane kvalitete, imaju sposoban ljudski potencijal s iskustvom i znanjem, financijsku snagu, inovativnost i kreativni potencijal. Mogu se akreditirati da postanu dobavljači opreme i izvode radove prema standardima nuklearne kvalitete (NQA - Nuclear Quality Assurance).
Kvalitetni sustavi zaštite okoline, zdravlja i sigurnosti na radu su dio integriranog sustava upravljanja (IMS - Integrated Management System) kvalitetom. Istovremeno uključuju obuku zaposlenika kao odlučujući element promicanja korporativne održivosti društveno odgovorne

organizacije. Različite industrije poput nuklearnih elektrana imaju stroge zahtjeve za akreditiranje, koji predstavljaju prepreke za odobravanje potencijalnih dobavljača.
Stoga održivost ili opstojnost tvrtke u sadašnjosti i budućnosti, ovisi između ostalog o postizanju vrhunske ocjene standarda, kako bi dobila status ovlaštene tvrtk prema Nuclear Quality Assurance standards. To zahtijeva stalnu angažirnost po pitanju ulaganja u edukaciju zaposlenih, radu na postizanju inovativnosti i kreativnosti u stalnoj težnji dostizanja najviših proizvodnih standarda i biti u samom vrhu kvalitete kako na regionalnoj tako i globalnoj razini.
Nakon što tvrtka postiže akreditaciju za kvalifikaciju prema NQA regulatornog tijela, dobiva se mogućnost natjecanja za projekte kao izvođači i dobavljači nuklearnih elektrana. Jedna od najvažnijih komponenti uspjeha održanja akreditacije tvrtke je trening i razvojni program postojećih zaposlenika i novih talenata.
Stručnost i kompetentnost radne snage važna su sastavnica globalne konkurentnosti. Osim toga, značajna komponenta programa je istraživanje i razvoj, kao i planirane nadogradnje budućeg razvoja samog poduzeća. To se smatra ključnim pokretačem tehnološke inovacije i ekonomskog napretka, osobito u regionalnim gospodarstvima.
Planirana nadogradnja na viši nivo qualitete mogla bi biti uvjet za stjecanje strože certifikacije kvalitete, koja će zauzvrat povećati konkurentnost tvrtke. Sposobnost tvrtke da ostane iznad ostalih dobavljača niže kvalitete, ima posebni utjecaj na mogućnost u natjecanja za projekte na nuklearnom tržištu. Standardi zahtjeva nuklearne kvalitete CSA N299 [1] je globalno priznat Kanadski nuklearni standard, u kojemu su pojedine EU tvrtke postigle akreditaciju kao dobavljači Kanadskoj nuklearnoj industriji.
Ovaj rad opisuje strateške smjernice za postizanje statusa ovlaštenog poduzeća kako bi bio dio opskrbnog lanca u skladu s najstrožim NQA standardima. Rad na programu zahtijeva dobru analizu trenutnog financijskog stanja tvrtke, sposobnosti za inovacije i predstavljanje uspješnih prethodnih projekata.
Cilj rada je analizirati gospodarski učinak IMS-a (Integrated Management System), kako implementacija standarda kvalitete pridonosi održivom razvoju u globalnom konkurentnom poslovanju. Istodobno, ovaj rad mogao bi pokrenuti dobavljači iz Republike Hrvatske kako bi se procijenila mogućnost pristupa ekskluzivnim dobavljačima za Kanadsko nuklearno tržište.
U radu je korištena metoda komparativne analize i sinteze rezultata istraživanja.

Ključne riječi: *Integrated Management System (IMS), Nuclear Quality Assurance (NQA), održivost tvrtke, inovativnost, upravljanje kvalitetom, ljudski resursi, konkurentnost*

1. Introduction

Global concept of quality opens new opportunities for international trade and joint ventures worldwide. Companies that hold higher quality international accreditation are in a position to expand globally.
E-commerce and technology reduced barriers for trade exchange and allow entrepreneurs to explore international trade opportunities. Canada is in the forefront of developing and applying the next generation quality programs, more demanding than ISO management quality standards. In our research paper, we are selecting companies who have been investing into obtaining higher accreditation, which will qualify them to become approved supplier to the nuclear industry. Since nuclear industry highly regulated and maintains the most rigorous quality standard requirements, a relatively small group of companies qualify to be part of the supply chain. Employees internal drive and commitment to improve a company's quality standards eventually bring external benefits, such as the improved market position of the company. Since skilled manpower is critical, we also analyze availability of highly qualified workforce, implementation of training programs and government incentives. Talent development and training within a company in companies we observed proved to be more successful than acquiring from outside.

Canada is in the forefront of developing and applying the next generation quality programs; more demanding than ISO[4] management quality standards. In our research paper, we are selecting companies who have been investing into obtaining higher accreditation, which will qualify them to become an approved supplier to the nuclear industry. Since the nuclear industry is highly regulated and maintains the most rigorous quality standard requirements, a relatively small group of companies qualify to be part of the supply chain. Employees internal drive and commitment to improve a company's quality standards eventually bring external benefits, such as the improved market position of the company. As skilled manpower is critical, we also analyze availability of highly qualified workforce, implementation of training programs and government incentives. Talent development and training within a company and in companies we observed proved to be more successful than acquiring them from outside. While quality certifications and human resource development are noble initiatives and differentiating factors that do come at a cost.

A company needs to evaluate the sustainability of these initiatives for acquiring new business and if they align with the goals/mission/vision of the organization. Quality certifications are costly to implement and to maintain. A company's upper management needs to consider some of the following points to create a compelling rationale to chart a strategic path forward:

1. Quality (classify levels) - what certification level would provide the best Return On Investment?
2. How company can stay above competition - does this certification elevate us above the competition or bury us with new cost overhead structures.
3. Why company needs upgrade - is the decision to upgrade in line with Company's strategic objectives?
4. Target market and why we upgrading - how much does our target market increase and how would this upgrade affect our existing customers?
5. What are target companies - how large is the industry and what are the barriers to entry beside the upgrade process itself i.e., will target companies be willing to work with 'new' suppliers without a proven history of projects?
6. Where we might fit - besides the Quality focus what are other factors important to my target group?
7. Alternative industries - how does upgrading qualification make it possible to work in other industries i.e., because of having nuclear quality certification does open doors in Defense/Military contracts?
8. Previous achievements and reputation - how does upgrading fit into the story of the company where it has been, where it is now and where it wants to be.
9. What company should be known for - if quality something what the company is currently known for it would be very hard to 'turn on' the quality mindset switch over night. It is easier for a company to implement quality where quality is already 'built in', meaning the company just doesn't have written procedures however it already delivers a quality product.

These are just some of the more important questions that authors had to delve into to create a strategic path for the Company, where a large part of our current business comes from the Nuclear Industry. This was a carefully premeditated strategic company plan which took many years to envision and implement and going forward continuously improved upon.

[4] ISO International Organization for Standardization https://www.iso.org/

2. Research methodology

In preparation of this paper methods qualitative and quantitative analysis of scientific and professional literature was analyzed, and examples from practical experience were also taken, which included aspects from:

- ➢ Trends of global sustainability
- ➢ Analyses of the economic impact of quality and standards
- ➢ Strategic framework for establishing competitive ability
- ➢ Quality regulatory authorities and accreditation processes
- ➢ Prerequisite attributes for sustainable development
- ➢ Market target segmentation by category (nuclear, power generation)
- ➢ Training
- ➢ Examples from history of quality programs

This paper, based on available data, analyses carried out, examples of good practice and conclusions provides suggestions for integration of quality management principles into sustainability management. Implications of quality improvements indirectly effect accelerated development of the economy and of the entire community.

3. Enterprise Sustainability Mission

As an important part of quality program, it is important to establish enterprise's sustainability mission and identify any processes and procedures that might be impeding its progress. Our research covers local companies that might have similar sustainability and determine benchmarking from which to improve company sustainability. If vying for working the Nuclear Industry a mission should call for a commitment to quality and compliance culture for all employees, but especially for company leaders. Internal training for quality is part of company mission to develop and invest in employees. [5]

4. The Quality standards

After WWII, the three quality champions Edwards Deming, Joseph Juran and Philip Crosby pioneered the idea of quality programs importance and under their influence quality improvements were introduced as the way of increasing productivity, reducing costs, and meeting customer needs. "*The key to successful implementation of quality principles and methods is tied to leadership*."[6]

In 1987, the International Standards Organization launched its first quality standard, ISO 9000 specifically focusing on the management of quality. In 1996, introduced environmental quality standards ISO 14001. The most recently social responsibility standard ISO 26000 was released in 2010.
Companies we analyzed in our paper strive to have exclusivity in supply chain to nuclear and power generation industries and have been diligently preparing manuals for the new CSA N299 Quality Manuals and launched an employee quality training.

---

[5] Driving Project, Program, and Portfolio Success: The Sustainability Wheel by Richard Maltzman, David Shirley, Taylor & Francis Group 2016 p. 141,142

[6] Three Experts on Quality Management by J. Gerald Suarez, Department of the NavyTQLO Publication No. 92-02 July 1992, Pg. 22. http://www.dtic.mil/dtic/tr/fulltext/u2/a256399.pdf

4.1 History of QA standards used by Canadian suppliers [7]

Before 1987. Canadian Standards Association (CSA) originally accredited companies to Z299 series of Quality Assurance standards. In 1987, the International Standards Organization (ISO) launched its first quality standard, ISO 9000 specifically focusing on the management of quality. In 1996, introduced environmental quality standards ISO 14001. The most recently social responsibility standard ISO 26000 was released in 2010. The main stream industries in 1994 abolished Z299 standards and accepted International Standard Association QA program, but nuclear and power generation industry considered it to be inadequate to ensure proper QA for their rigorously controlled operation.

Therefore, since 1994 nuclear industry continued with CSA CAN3-Z299 standard in conjunction with today's ISO 9000 series of standards. The main reason for staying with CSA CAN3-Z299 standard is that is more defined and demands stricter quality control. Therefore, still has been preferred quality standard in nuclear and power generation industries until now. Presently Z299 has been modified and is being replaced with the new CSA N299 series of acceptable standards. Company goal is to adopt and become accredited to the latest quality standard and qualify to enter supply chain.

Table 1 *Historical development Quality nuclear standard Z299 series*

- ✓ developed in the late 1970s as QA standard for the procurement of items and services for nuclear facilities
- ✓ commercial standard, not a nuclear standard
- ✓ precursor to the development of the ISO 9000 series of standards
- ✓ ISO 9001:1994 became the commercial quality standard that was generally adopted by industry
- ✓ Z299 became an orphan standard used by the nuclear industry only; it has not been updated since 1986

Source: Management System and Quality Assurance Standards for Nuclear Power Plants and Suppliers, by Chantal Gélinas, January, 2016. www.nuclearsafety.gc.ca/eng/pdfs/Presentations/CNSC_Staff/2016/20160119-management-system-and-quality-eng.pdf

4.2 Description of Levels and Classification of the CSA N299 series of standards [8]

Categories recognize specific levels of competence, capability to receive accreditation according to QA Z299 standards.

[7] Management System and Quality Assurance Standards for Nuclear Power Plants and Suppliers, by Chantal Gélinas, January, 2016. www.nuclearsafety.gc.ca/eng/pdfs/Presentations/CNSC_Staff/2016/20160119-management-system-and-quality-eng.pdf

[8] Management System and Quality Assurance Standards for Nuclear Power Plants and Suppliers, by Chantal Gélinas, January, 2016. www.nuclearsafety.gc.ca/eng/pdfs/Presentations/CNSC_Staff/2016/20160119-management-system-and-quality-eng.pdf

• **Category 1** Suitable for custom-designed items first of a kind high-technology items and services that tend to require many complex processes and extensive design effort
• **Category 2** Suitable for relatively high-technology items or services that tend to require design activities, design verification, production planning, and that have a significant number of complex processes
• **Category 3** Suitable for items or services requiring some complex processes; these might be high-volume services or mass-produced items and might include design changes and associated verification and production activities
• **Category 4** Suitable for mass-produced items or high-volume services that are designed to commercial technical standards, or for simple processes such as custom machining and assembly designs are usually mature and established, and the production and interfaces are not complex

Table. 2. Four Levels of QA standard categories Four quality assurance program categories series is composed of four levels of standard. This is the first in a series of four standards for the quality assurance program categories (Category 1 highest to Category 4 lowest). This Standard was used a prior to ISO and is the basis of what the ISO program was written to.

Table 2 *CSA N299 Categories*

N299.4: Category 4 = Sorting
N299.3: Category 3 = Sorting + Verifying
N299.2: Category 2 = Sorting + Verifying + Reacting
N299.1: Category 1 = Sorting + Verifying + Reacting + Preventing

Source: Management System and Quality Assurance Standards for Nuclear Power Plants and Suppliers, by Chantal Gélinas, January, 2016. www.nuclearsafety.gc.ca/eng/pdfs/Presentations/CNSC_Staff/2016/20160119-management-system-and-quality-eng.pdf

Specifications for QA N299 Standard Category 4

N299.4: Category 4 = Sorting

QA Category 4 program consists of
• training requirements
• contract review
• document control
• calibration
• procurement
• inspection and tests
• identification
• handling and storage control
• production
• packaging and shipping
• Counterfeit and Suspect Items (CFSI)
• quality records
• non-conformance and corrective action
• customer-supplied items and services
• statistical techniques
Important: No design activities required for N299.4

Specifications for QA N299 Standard Category 3 consists of all Category 3 and 4 requirements

N299.3: Category 3 = Sorting + Verifying

Category 3 Requirements of CSA N299 Series of Standards consists of all Category 4 requirements and additional requirements in the verifying category such as: all personnel qualification program, QA manual, tender review program, description, design, inspection, test and production planning, identification and traceability, use of experience, special processes, external audits N299.3**.**

Specifications for QA program Category 2 consists of all Category 3 and 4 requirements

N299.2: Category 2 = Sorting + Verifying + Reacting

Category 2 Requirements of CSA N299 Series of Standards consists of all Category 3, and 4 requirements and additional requirements in the reacting category such as program procedures, additional design requirements, non-conformance cause analysis and internal audits

Specifications for QA program Category 1 consists of all Category 2, 3 and 4 requirements

N299.1: Category 1 = Sorting + Verifying + Reacting + Preventing

Category 1 Requirements of CSA N299 Series of Standards consists of all Category 2,3 and 4 requirements and additional requirements in the preventing category, such as process review, additional requirements for design, non-conformance preventive measures and corrective action for potential non-conformance

Canadian Nuclear Safety Commission oversight of licensee management systems provides assurance that management and support processes are properly implemented across all safety and control areas and all licensees' supply chains.

5. Training

The globalization of markets is accelerating the diffusion of technology and the pace of innovation. New occupations are emerging and replacing others. Within each occupation, required skills and competencies are evolving, as the knowledge content of production processes and services is rising. how productive they are, which in turn rests on the skills they have and how effectively those skills are used. Skills are a foundation of decent work.[9]

5.1. Leadership, Training and Employee Motivation

Abraham Maslow published his book "Towards a Psychology of Being" (1962). Maslow's theory is based on human development needs and motivation.[10] Just like humans, business is driven to survive and prosper. Therefore, a correlation can be implied that a similar hierarchy could exist in an organization. "Based on over 2,000 studies looking at the needs of businesses, this article sets out to show that there is a hierarchy of needs in businesses which is very similar to the Hierarchy of

[9] A Skilled Workforce for Strong, Sustainable and Balanced Growth: G20 Training Strategy INTERNATIONAL LABOUR OFFICE GENEVA, NOVEMBER 2010. Page 8. https://www.oecd.org/g20/summits/toronto/G20-Skills-Strategy.pdf

[10] Quality of Life Theory III. Maslow Revisited, Ventegodt, S., Merrick J., Niels Jørgen Andersen N.J., The Scientific World Journal, Pg.1050, Published October 13, 2003

Human Needs." [11] Maslow's hierarchy pyramid diagram is his visual interpretation of human motivation, and necessities in personal development to reach higher level of satisfaction, where transcendence is the highest, rising above ordinary. In business environment employees' motivation is one of the important components in achieving and maintaining of high quality standards.

***Figure 1** Business Hierarchy of Needs* [12]

Ultimate Achievement **Above Ordinary – Transcendence**

QA Accreditation, Acquiring New Markets

Corporate Responsible Social Marketing

Business PR, Marketing Development

Innovation, New Product Development, IT

Operations, HR, H&S, Legal, Marketing

Training and Developmental Support

Vision/Mission Marketing, Sales, HR

Finance, Production, Sales, Marketing Control

Basic Operational Functioning Needs

Source: Figure 3. Created by authors, https://www.b2binternational.com/publications/introducing-the-business-to-business-hierarchy-of-needs/

Companies looking to achieve higher levels of engagement will focus on communicating their mission to align individuals to the higher purpose. Training is a mechanism to develop their talent. Having clear direction and the skilled workforce is a competitive advantage.
An engaged workforce is more likely to go the extra mile and put in higher levels of discretionary effort beyond what they are contracted to deliver.[13] This directly supports the higher accreditation needs of businesses to attain N299 quality standards. In terms of basic survival needs Quality is integral to 'Product Promises'. Therefore, Quality could be considered a basic survival need for those companies who work in industries that require this level of product assurance. Insomuch that

[11] Introducing the Business-To-Business Hierarchy of Needs. B2B International by Matthew Harrison & Catherine Firth.
https://www.b2binternational.com/publications/introducing-the-business-to-business-hierarchy-of-needs/
[12] Figure 3. Created by authors, https://www.b2binternational.com/publications/introducing-the-business-to-business-hierarchy-of-needs/
[13] Introducing the Business-To-Business Hierarchy of Needs. B2B International by Matthew Harrison & Catherine Firth.
https://www.b2binternational.com/publications/introducing-the-business-to-business-hierarchy-of-needs/

quality is a part of 'Survival Needs', it also permeates in other aspects of the Maslow hierarchy. In the other word, for quality to truly be implemented efficiently and effectively, it needs to be part of each and every part of the hierarchy. In the past Quality Control was a function of the Quality Department however now quality is each and every employees' responsibility. The Quality Department facilitates and guides, trains and implements/revises processes and procedures to improve them and make sure they reflect the latest quality standards.

6. Conclusion

Sustainability of a company starts with leaders who must recognize opportunities to avoid status quo and differentiate themselves from the ordinary competition. Selection of target market of nuclear industry demands implementation of high impact improvements and the highest level of quality assurance standards. Innovativeness and creativity combined with exceptional reputation record of dependable quality, engineering and manufacturing capabilities allow company to compete in nuclear supply chain and have long term sustainability

Technological innovations and production advances demand outstanding quality control and company reputation and sustainability depends on it. In the context of sustainability deployment of integrated quality, environmental, occupational health and safety management systems (IMS) have been a major driver in companies' growth and sustainability. We found that only a few small and medium sized enterprises (SME) venture into nuclear supply chain with CSA N299 accreditation. In the city of Hamilton, Ontario, Canada with population of 800,000, we located only two companies qualified to work for nuclear and power generation plants. Opportunity to serve this market is great, although cost of receiving accreditation and maintaining nuclear standard is high, it is still worth investment. In our paper, we explained Canadian Nuclear Quality CSA N299 series of standards, which are internationally recognized. Since number of European companies are accredited to the CSA N299 program, we assume that Croatian companies might find our research paper resourceful and initiate process to be audited and approved to export to the Canadian nuclear market.

REFERENCES

Books

Philip Crosby, Quality Is Free - The Art of Making Quality Certain, by Philip Crosby, Penguin Books Canada Ltd., January 1981.
W. Edward Deming, The New Economics for Industry, Government, Education by W. Edwards Deming, MIT Press, July 2000.
J.M. Juran, Juran on Leadership for Quality - An Executive Handbook by J.M. Juran, Free Press, May 2003.
Richard Maltzman, David Shirley, Taylor & Francis Group 2016.
H. Maslow, Toward a Psychology of Being by Abraham H. Maslow, John Wiley and Son, November 1998.
D.H. Stamatis, Taylor & Francis, Quality Assurance: Applying Methodologies for Launching New Products, Services, and Customer Satisfaction by D. H. Stamatis, Taylor & Francis Inc., September 2015.

Project

Driving Project, Program, and Portfolio Success: The Sustainability Wheel

Internet Sources and Journals

Skills and Talent Strategy – the Key to Global Competitiveness
https://www.industryforum.co.uk/resources/articles/skills-and-talent-strategy-the-key-to-global-competitiveness/

A Skilled Workforce for Strong, Sustainable and Balanced Growth: G20 Training Strategy
International Labour Office Geneva, November 2010,
https://www.oecd.org/g20/summits/toronto/G20-Skills-Strategy.pdf

Journal The Guardian - Guardian sustainable business - Inside sustainability by John Elkington, Is sustainability the new total quality management? June 2011
https://www.theguardian.com/sustainable-business/sustainability-with-john-elkington/sustainability-new-total-quality-management
Pioneers of Project Management: Deming vs Juran vs Crosby by Avantika Monnappa, December 2017
https://www.simplilearn.com/deming-vs-juran-vs-crosby-comparison-article

The Quality Movement and Practices of Excellence around the World, Integrating quality management principles into sustainability management by Chu-hua Kuei & Min H. Lu Pages 62-78 |Taylor & Francis Group, Published online: 11 May 2012
https://www.tandfonline.com/doi/abs/10.1080/14783363.2012.669536

Integrated management systems towards sustainable and socially responsible organization
Iveta Mežinska,Inga Lapiņa &Jānis Mazais, Journal Total Quality Management & Business Excellence Volume 26, 2015 - Issue 5-6, Pages 469-481 | Published online: 23 Sep 2013
https://www.tandfonline.com/doi/full/10.1080/14783363.2013.835899?src=recsys

Quality of assurance on sustainability reports, by Irene Damen, Master Thesis Nijmegen School of Management Radboud University, July 2016
http://theses.ubn.ru.nl/bitstream/handle/123456789/1755/1516.022%20Irene_Damen_mathesis.pdf?sequence=1

Management for sustainability – A stakeholder theory, by Rickard Garvare &Peter Johansson
Pages 737-744 | Published online: 12 Jul 2010
https://doi.org/10.1080/14783363.2010.483095

Linking Sustainability to Quality Management and Firm Performance by Rajat Mishra1 & Randy Napier, Nelson Rusche College of Business, Stephen F. Austin State University, College of Business, University of Texas at Arlington, Texas, USA, November 2014
http://dx.doi.org/10.5539/ijbm.v10n3p1

Sustainability: What's Quality Got to Do With It? by Raj Sapru, Business for Social Responsibility (BSR), August 2011, insights/blog-view/sustainability-whats-quality-got-to-do-with-it

The support of Quality Management to sustainable development: A literature review by
Vanajah Siva, Ida Gremyr, Bjarne Bergquist, Rickard Garvare, Thomas Zobel, Raine Isaksson, Journal of Cleaner Production, January 2016
https://www.researchgate.net/publication/291185930_The_support_of_Quality_Management_to_sustainable_development_A_literature_review

Why Does the Implementation of Quality Management Practices Fail? A Qualitative Study of Barriers in Brazilian Companies by Tuane Tonani, Yamada Camila, Fabricio Poltronieri, Lillian do Nascimento, Gambi Mateus, Cecilio Gerolamo
https://www.sciencedirect.com/science/article/pii/S1877042813015115

The Global Competitiveness Report 2017-2018, http://reports.weforum.org/global-competitiveness-index-2017-2018/

Quality Systems and Standards for a Competitive Edge, by Guasch, J. Luis; Racine, Jean-Louis; Sánchez, Isabel; Diop, Makhtar. 2007. Quality Systems and Standards for a Competitive, https://openknowledge.worldbank.org/handle/10986/6768 License: CC BY 3.0 IGO."

Three Experts on Quality Management by J. Gerald Suarez, Department of the Navy
TQLO Publication No. 92-02 July 1992
http://www.dtic.mil/dtic/tr/fulltext/u2/a256399.pdf
Management System and Quality Assurance Standards for Nuclear Power Plants and Suppliers, by Chantal Gélinas, January, 2016, nuclearsafety.gc.ca
http://www.nuclearsafety.gc.ca/eng/pdfs/Presentations/CNSC_Staff/2016/20160119-management-system-and-quality-eng.pdf

"Success factors for quality management systems: certification benefits" by *Adolfas Kaziliūnas*
Intellectual Economics Journal, https://www3.mruni.eu/ojs/intellectual-economics/article/view/1173

What a phenomenal book for the aspiring entrepreneur in every obvious way. For me, the definition of an entrepreneur was simply an individual seeking true mastery over his or her passion. If you have a strong attachment or passion for something specific and are able to make a living while driving self-actualization, you are mastering your course.
http://www.arthurshulsky.com/writing/2017/2/19/lets-revisit-the-legendary-book-outliers-by-malcolm-gladwell

Cultural Intelligence & the Successful Business Owner
http://www.eograndrapids.org/successful-business-owner/?gclid=Cj0KCQjwn-bWBRDGARIsAPS1svs1Nn7Bpgn2HxGay_kZfLd_4YR9HdrmEUxEfu5rCe2SVtPzuyU0SyEaAqg-EALw_wcB

Sustainability Issue Reference
https://www.diva-portal.org/smash/get/diva2:827019/FULLTEXT01.pdf
https://www.mckinsey.com/business-functions/operations/our-insights/manufacturing-quality-today-higher-quality-output-lower-cost-of-quality
https://www.nap.edu/read/6369/chapter/8

Ernest Vlačić, Ph.D., professor
NOVAMINA Innovative Technology Center
University of Applied Sciences Baltazar Zaprešić
Zagrebačka cesta 145a, 10 000 Zagreb (Croatia)
Phone: +385 98 330 140
E-mail address: ernest.vlacic@novamina.hr

Zlatko Barilović, Ph.D., senior lecturer
University of Applied Sciences Baltazar Zaprešić
V. Novaka 23, 10 290 Zaprešić (Croatia)
Phone: +385 98 665 162
E-mail address:zlatko.barilovic@bak.hr

Karlo Jurač, spec. oec., assistant, Ph.D. student
University of Applied Sciences Baltazar Zaprešić
V. Novaka 23, 10 290 Zaprešić (Croatia)
Phone: +385 95 840 9422
E-mail address: karlo.jurac@bak.hr

TYPOLOGICAL DETERMINATION OF INNOVATION IN MEASURING THE PERFORMANCE OF INNOVATION INDICATORS

TIPOLOŠKA DETERMINACIJA INOVACIJE KOD MJERENJA USPJEŠNOSTI INOVACIJSKIH INDIKATORA

ABSTRACT

Innovation in firms, particularly when systematically conducted through a structured process, strongly supports the achievement of organizational goals along with maintenance of their competitive advantage. However, the real effects of innovationare volatile, especially when the technologyoriented firms are in question. This is particularly evident with firms that are predominantly offering innovative products or services. So the research question arises what are the quantitative differences in the output indicators for these two basic categories of the innovation typology? The answer is certainly not unambiguous and it depends on the selection of factors and indicators used by the research. Research on proposed topic is recently significantly intensified in developing or transition countries. Providing accurate data on the innovation outputs successfulness should facilitate in better shaping the innovation strategies, both, by the institutional framework and within firms themselves. Therefore, the aim of this paper, based on the basic typology of innovation, is to provide an answer whether the technology-oriented firms in the Republic of Croatia are more successful in innovating their products or innovating their services. The research was carried out on a sample of 89 technology-oriented companies in the Republic of Croatia. Simplified statistical methods including the correlation matrix and the arithmetic mean values of the stratified sample were applied, and the results of this paper show demonstrate higher levelof successfulness in commercialising innovative products in comparison with innovative services. Produced results will certainly contribute in deeper understanding of the researched topic, and may also be used as an empirical background for the future researches that may include different firms' topologies on national and/or regional level.

Key words: *innovation typology, product and service, technology-oriented enterprises, innovation strategy.*

SAŽETAK

Inoviranje u poduzećima, posebno kada se ono sustavno provodi kroz strukturirani proces, snažno podupire ostvarenje ciljeva poslovanja i održavanja konkurentske prednosti. Međutim često se postavlja pitanje koji su konačni efekti inoviranja u smislu uspješnosti producirane inovacije, posebice kad je ono tehnološki zasnovano. To specifično vrijedi za poduzeća koja predominantno nude inovativni proizvod odnosno inovativnu uslugu, pa se postavlja pitanje kolike su kvantitativne razlike izlaznih indikatora za navedene kategorije u tipologiji inoviranja? Odgovor svakako nije jednoznačan i ovisi o odabiru faktora i indikatora koji se kod istraživanja koriste, a recentno se takve analize inovacijske uspješnosti u frekvenciji i obuhvatu intenziviraju u zemljama u razvoju ili tranzicijskim zemljama. Raspolaganje preciznijim podacima o uspješnosti inovacijskih izlaza treba pomoći u oblikovanju inovacijskih strategija, kako od strane institucionalnog okvira tako i kod samih poduzeća. Stoga je cilj ovog rada pokušati pružiti odgovor na pitanje jesu li tehnološko orijentirana poduzeća u Republici Hrvatskoj prema osnovnoj tipologiji inoviranja uspješnija u tržišnom plasmanu svoji inovativnihproizvoda ili inovativnih usluga. Istraživanje je provedeno na uzorku od 89 tehnološko orijentiranih poduzeća u Republici Hrvatskoj. Dobiveni rezultati primjenom statistički simplificirane metode korelacijske matrice i stratifikacije uzorka obrađenim aritmetičkom srednjom vrijednosti pokazuju kako je kod istraženih poduzeća utvrđena viša razina uspješnosti tržišnog plasmana inovativnog proizvoda u odnosu na tržišni plasman inovativne usluge. Rezultati ovog istraživanja će svakako doprinijeti razumijevanju istraženog područja, a mogu se koristiti i kao temelj budućih istraživanja koje može obuhvatiti drugačiji uzorak poduzeća kako na nacionalnoj tako i regionalnoj razini.

Ključne riječi: *tipologija inoviranja, tehnološki orijentirana poduzeća, proizvod, usluga, strategija inoviranja.*

1. Introduction

An increasing number of national economies are aiming to transform and increase their current level of economics of efficiency, or even more extreme from the economics of the factors, into innovative economies with higher added value (Tan and Phang, 2005). Such transition is almost unexceptionally complex, long-lasting and often represents an impossible mission, which isespecially valid for developing or transition economies.To challenge this, national institutional frameworkentities ought to develop andimplementa mix of efficient innovation supporting measures and instruments to supporttheir firm innovative performances. Among other, anappropriate balance in innovation typology offerings in domestic firms has to be sustained.
In better understanding and measuring innovation effects of firms', the first step is tomeasure their innovation related inputs or outputs. Innovation inputs are mostly related to firms internal efforts to come up with new products or services, while their outputs are reflected in quantities of new products/services or processes successfully introduced to the market. The second areoften observed by changes in their financial outputs, primarily in revenues and profits.However, the real performance effects deriving from innovation are volatile, independently whether firms are offering innovative products or services.

Here the question arises; what are the quantitative financial indicators of the innovation outputs for two dominantinnovation typology categories, product and services? Question relatedempirical research is recently, in its frequency and coverage, significantly intensified in developing or transition economies.

Hence, the aim of this paperis to provide an answer to a leading research question;based on the basic typology of innovation are the technology-oriented firms in the Republic of Croatia more financially successful in marketing their innovative products, or this is a case with their innovative services.

Applying thesimplified statistical methods including the correlation matrix and the arithmetic mean values of the stratified sample, the research was carried out on a sample of 89 technology-oriented companies in the Republic of Croatia.

Following this introduction, a literature review on current research of innovation typology and related condensed innovation financial performance research is presented. In the third section, the model and methodology are explained including identified limitations in the implementation of the research. Fourth section deals with analysis of collected data and discussion on produced results followed by concluding section

2. Theoretical Background

Over a sustained period the available literature has demonstrated that product innovation has been considered the main driver of creating added value in firms. Since the embryonic Shumpeterian approach (Schumpeter 1942) in the evolution of innovation typology, besides the product innovation a series of other innovation categories have emerged,particularly these related to business models and innovation of services (Amit and Zott 2001; Kotsemir and Alexander, 2013;Snihur and Zott 2014).Relatively new process in merging different categories that is emerging is the innovative servitization of products (Visnjic, Wiengarten, and Neely, 2016). Service based business model innovation represents the product servitization strategy where manufacturing firms their product business model expandwith services related to their products and, as a result, shifts from the product orientedservice orientedbusiness model (Cusumano et al. 2014). Service innovation approachcan be visible through variety of conceptualizations (servitization, integrated solutions, systems selling, hybrid offerings, and product-service systems), and has attracted interest from a number of disciplines (engineering, marketing, services, operations, innovation and general management). The shift towards service innovation is visible in large firms, but and also in a population of SMEs which are re-orienting towards services as well (Kowalkowski, Witell, &Gustafsson, 2013).

A lot of empirical research has so far been conducted on evaluating the financial implications of innovation of firms (Egger, Thiesbrummel and Deutscher, 2014). With respect to so far dominant segment, the product innovation, empirical studies typically find positive effects on financial performance outcomes(Hultet al. 2004; Zhou 2006), ranging from moderate (Danneels and Kleinschmidt 2001) to strong (Firth and Narayanan 1996).

Due to the relatively recent interest in theoretical considerations, there are significantly fewer examples of operationalization of research when it comes to the service innovation segment, including the segment of servitization or other mentioned type. Especially,very limited quantities of available research publications are dealing with empirical comparison of two types of innovation, products and services.

Nevertheless, services can become an important source of revenue and profits, support firms' growth and ensure customer satisfaction and loyalty(Fischer, Gebauer, &Fleisch, 2012; Eggert, Hogreve, Ulaga&Muenkhoff, 2014; Kowalkowski, Gebauer and Oliva, 2017). In addition, services can play a powerful role in building brand equity in business markets (Davis, Golicic, & Marquardt, 2008), especially in industries where it is difficult to maintain competitive product differentiation due to commoditization (Mudambi, Doyle, & Wong, 1997).
In Croatia, the intensity of research efforts on the financial performance of an innovative product or service ismarginal where itdeals withthe innovation effects,but is usuallyconsiderably less empirically oriented. Recently, some advancement in examined segment arenoted, but they are operationalized through the indirect empirical approach and hybridised withcomplementary contexts of absorption capacity or systematic knowledge management (Dabic, Vlacic, Daim, 2017;Vlacic, 2017)

Upon the presented literature review, and grounded on the goals of this paper a main research question arises; what are the quantitative financial indicators of the innovation outputs for two dominant innovation typology categories, product and services, and what is their interrelation?As mentioned earlier, the focus of this research is aimed at innovating technology-oriented companies, although other related typologies of non-technological companies will in principle not be *a priori* rejected in sample selection.

3. Methodology

3.1. The Sample and Applied Methods

In order to address the main research question, a tailor made research concept has been developed.It includes the definition and selection of the firms sample and the construction of appropriate questions to be distributed by questionnaire. Simplified statistical methods including minimized correlation matrix and the arithmetic mean values of the stratified sample were used to respond to analytical requirements of this work.

The research sample is represented of firms that are classified in accordance to the National (Croatian) classification code NKD – 2007, which matches the NACE[1] classification. Targeted population corresponds to a purposive sample, identified from a database of the Croatian Chamber of Economy (CCE). Not explicitly sector oriented, more than six hundred (n=600) larger SME-s (but not limited to) were selected for questionnaire[2] distribution. Firms belonging to the micro classification, these with less than 10 employees, were not taken into consideration. To be eligible as sample unit, through primary and secondary collected information it was confirmed candidates were with certain intensityengaged in technology-related innovation processes. In principle it was required that they had conducted commercially focused innovation activities and/or invested in R&D activities in the past. Most of the targeted firms are deriving from technology-intensive areas: ICT as predominant sector, followed by cross-sectorial hi-tech engineering companies and technology development firms.

Leading managers (CEO, CTO, CFO, CIO) acting as a representatives of their organizations (not as individuals),validly compiled received questionnaires resulting with 89 relevant answers. The validity and reliability assessment of the questionnaire was previously conducted on sixfirms which were identified as a sample.

---

[1] The Statistical classification of economic activities in the European Community, abbreviated as NACE
[2]Questionnaire created for larger research activity that contains significantly wider set of questions, used in Vlacic (2016)

By the questionnaire required, the appropriateness of the innovation performance outputs is ensured by formulation ofarticulated questions: 'what is the percentage in total revenues/profits from the innovative products or services in the last 5 years?' As per innovation typology the answer which verified the type of innovation offered four options; products, services, combination of products and services, and finally processes. Innovative process offering was not selected by any of 89 responding firms. Variables used in this research are presented in table 1. bellow.

Table 1 *Variables in use*

Variable	selection/scale	abbrev.
Innovation output: percentage in total revenues from the innovative products or services in the last 5 years	range choice, single selection, integer value (0>0%, 1>1-29%, 2>30-49%, 3>50-79%, 4>above 80%)	*inn_rev*
Innovation output: percentage in total profit from the innovative products or services in the last 5 years	range choice, single selection, integer value (0>0%, 1>1-29%, 2>30-49%, 3>50-79%, 4>above 80%)	*inn_prof*
Innovation type: product, service, products + services, processes	single choice, integer value (1-4)	*inn_type*

Source: authors

3.2. Limitations

The intensity and frequency of questionnaires distributed to firms in Croatia is continuously increasing. The final results of 89 received valid surveys may be considered as a satisfactory result, it was however achieved only after perpetual rounds of filling persuasion. In an effort to construct questions that are understandable to a wider population, it should be kept in mind that respondents possess different positions in firms'hierarchy, variable skills, and different cognitive characteristics. Thus, respondents may understand and interpret same questions in different ways which consequently statistically equally evaluated.

4. Results and Discussion

As a first step an application of a correlation matrix was made in order to identify the linkage between *inn_rev* and *inn_prof* variable, presented in table 2.The results in table 2 are depicting rather high correlation (0,925) value between two observed variables, thus indicating that examined firms did respond with relatively highlymatching percentageregarding to their revenues and profitsin marketing of their innovative products or services.

Table 2 *Simplified variables correlation matrix, source: authors*

	inn_rev	*inn_prof*
inn_rev	1	
inn_prof	0,925	1

Source: authors, calculation

The first step in determination of typology related performance successfulness assumes the initial stratification into three basic offerings, whereby a category 'processes'is*a priori* excluded due to the absence of its selection in answers. Accordingly three categories were established; 'product','services' and their 'combination', and subsequently their arithmetic means are calculated, presented in table 3.

***Table 3** Calculated arithmetic means for stratified categories*

	$\bar{x}_{aggregate}$	$\bar{x}_{inn\_rev}$	$\bar{x}_{inn\_prof}$
Products	1,985	1,941	2,029
Services	1,173	1,173	1,173
combination, p+s	1,890	1,937	1,843

Source: authors, calculation

The results in table 3 show the value of the $\bar{x}_{aggregate}$ variable that is the highest for innovative products and the lowest for innovative services, and somewhat higher for the combination. This indicates that within tested companies a highest level of financial performances (outputs) has been achieved in marketing of innovative products, whilesomehow lower byfirmsthat are offering combinations of innovative products or services. The table also shows that financial performance of firms' innovative services is the lowest. When it comes to the variables $\bar{x}_{inn\_rev}$ and $\bar{x}_{inn_prof}$it is noteworthy that they are practically identical forinnovative service and somewhat vary for products and combinations. Variations, albeit low, suggest that firms' performances are somewhat higher in theprofitability ofmarketed innovative products, while in marketing innovative combinations the performances are somewhat higherwith revenues. This service value is identical for both categories, indicating that performances in terms of revenues and profitability for innovative services are the same.

The results presented demonstrate that firmsare expressing higher level of financial performances withinnovative products compared to services, whereby revenue differentiation in relation to profitability is very low, practically negligible. One may assume that the principal finding could be groundedon the fact that firmswho offer innovative products are inclined to, or strongly export oriented. Being such the financial effect of higher volume in products sales is*per se* higher than services sales, which is usually geographically limited. Another reason may lay in the fact that once developed the innovative products compared to services have a higher added value in their market commercialization.

5. Conclusion

This research has analytically demonstrated that financial performance in marketing innovative outputs at Croatian firms is higher with those who offer innovative products in comparison with those offering their innovative services. Firms that are offering a combination of both offerings are somewhat less efficient than those offering only products. In the era of industrial revolution 4.0 and digital transformation it is plausible that such trends may be altered in the near future. This is due to the industry 4.0 philosophy that foreseesspecifically customised products for the end users whereby firms' market offerings ought to be oriented towards and containtailored combination of innovative products and services.

The result and data collected through this research may well serve members of the institutional framework in better shaping their innovative policies and strategies (MINGO, 2014; MINGO, 2016), either from the demand or the supply side. This could be well focused in sustaining and promoting innovation efforts towards creation of innovative or hybridised products that are synergising the combination of both, product and services.Providing accurate data on the innovation outputs successfulness should also facilitate in better shaping and implementing firms' innovation strategies.

This research can be further cross-sectorial extended in order to get deeper insights of the specificfirms'stratums and their performances. It can also furthermore thoroughly explore the genesis of such identified difference between products and services, for which authors assumptions only were offered by this paper.

REFERENCES

Amit, R. and C. Zott. (2001):***Value Creation in e-Business***,Strategic Management Journal,Vol. 22, No. 6–7, pp. 493-520.

Cusumano, M. A., S. J. Kahl, and F. F. Suarez. (2014): ***Services, industry evolution, and the competitive strategies of product firms***,Strategic Management Journal DOI: 10.1002/smj.2235

Danneels, Erwin and Elko J. Kleinschmidt (2001): ***Product innovativeness from the firm's perspective: Its dimensions and their relation with project selection and performance***, Journal of Product Innovation Management, Vol.18, No. 6, pp. 357-73.

Dabic, M, Vlacic, E., Daim, T., (2017): ***Contextual Differentiation of Absorptive Capacity: Empirical and Conceptual Development***, PICMET 2017, PORTLAND USA July 2017, DOI10.23919/PICMET.2017.8125359

Davis, D. F., Golicic, S. L., & Marquardt, A. J. (2008): ***Branding a B2B service: Does a brand differentiate a logistics service provider?*** Industrial Marketing Management, Vol. 37, No. 2, pp. 218-227.

Eggert, A., Hogreve, J., Ulaga, W., &Muenkhoff, E. (2014): ***Revenue and profit implications of industrial service strategies***, Journal of Service Research, Vol.17, No.1, pp. 23-39.

Eggert, A., Thiesbrummel, C., &Deutscher, C. (2014): ***Differential effects of product and service innovations on the financial performance of industrial firms***. jbm-Journal of Business Market Management, Vol.7, No.3, pp. 380-405.

Firth, Richard W. and K.V. Narayanan (1996): ***New product strategies of large, dominant product manufacturing firms,*** Journal of Product Innovation Management, Vol. 13, No. 4, pp. 334-47.

Fischer, T., Gebauer, H., &Fleisch, E. (2012): ***Service business development: Strategies for value creation in manufacturing firms.***Cambridge University Press.

Hult, G. Thomas M., Robert F. Hurley, and Gary A. Knight (2004): ***Innovativeness: Its antecedents and impact on business performance***,Industrial Marketing Management, Vol. 33, No. 5, pp. 429-38.

Kotsemir, M., Alexander, A., (2013): ***Innovation concepts and typology – an evolutionary discussion***,Science, technology and innovation.

Kowalkowski, C., Gebauer, H., & Oliva, R. (2017): ***Service growth in product firms: Past, present, and future.*** Industrial marketing management, 60, pp. 82-88.

Kowalkowski, C., Witell, L., &Gustafsson, A. (2013): ***Any way goes: Identifying value constellations for service infusion in SMEs***, Industrial Marketing Management, Vol. 42, No. 1, pp. 18-30.

MINGO (2014): ***Strategija Poticanja Inovacija Republike Hrvatske 2014. – 2020,*** Narodne Novine Republika Hrvatska, Vol. 153, No. 74.

MINGO (2016):***Strategija pametne specijalizacije Republike Hrvatske za razdoblje 2016.-2020***, Narodne Novine Republika Hrvatska, Vol. 2, No. 2.

Mudambi, S. M., Doyle, P., & Wong, V. (1997): ***An exploration of branding in industrial markets***, Industrial Marketing Management, Vol.26, No. 5, pp. 433-446.

Schumpeter, J. A. (1942): ***Capitalism, Socialism and Democracy***,Harper: New York

Snihur, Y. and C. Zott. (2014):***Legitimacy without Imitation: How to Achieve Robust Business Model Innovation***. Working paper. IESE Business School.

Tan, K. S., &Phang, S. Y. (2005): ***From efficiency-driven to innovation-driven economic growth: perspectives from Singapore***, World Bank Publications, Vol. 3569

Visnjic, I., Wiengarten, F., & Neely, A. (2016):***Only the brave: Product innovation, service business model innovation, and their impact on performance***. Journal of Product Innovation Management, Vol. 33, No. 1, pp. 36-52.

Vlačić, E. (2016): ***Apsorpcijski kapacitet hrvatskih poduzeća (Absorptive capacity of croatian firms)***, Ekonomski fakultet Zagreb, Croatia, Mentor: Prof. dr. sc. Marina Dabic

Vlačić, E. (2017): ***Uloga funkcije sustavnog upravljanja znanjem poduzeća kao potpora inovacijskom procesu***, Zbornik Ekonomskog fakulteta u Zagrebu, Vol. 15, No. 1. doi:10.22598/zefzg.2017.1.133

Zoran Wittine, PhD, Assistant Professor
Faculty of Economics and Business, University of Zagreb
Trg J. F. Kennedyja 6, HR-10000 Zagreb, Croatia
Phone: +385 1 238 3350 Fax: +385 1 233 5633
E-mail address: zwittine@efzg.hr

Mile Bošnjak, PhD, Assistant Professor
Faculty of Economics and Business, University of Zagreb
Trg J. F. Kennedyja 6, HR-10000 Zagreb, Croatia
Phone: +385 1 238 3333 Fax: +385 1 233 5633
E-mail address: mbosnjak1@net.efzg.hr

Helena Bedeković, univ.bacc.oec.
Faculty of Economics and Business, University of Zagreb
Trg J. F. Kennedyja 6, HR-10000 Zagreb, Croatia
Phone: +385 1 238 3333 Fax: +385 1 233 5633
E-mail address: hbedekovi@net.efzg.hr

ANALYSIS OF STATE AND PERSPECTIVES OF CROATIAN STARTUP COMPANIES

ANALIZA STANJA I PERSPEKTIVA HRVATSKIH STARTUP PODUZEĆA

ABSTRACT

Startup companies in majority of the most developed countries of the world represent an extremely important leverage of economic and social development. Because of the inherent characteristics that distinguish them from other entrepreneurial ventures (e.g. scalability, growth rates, funding sources, business model innovations, etc.), startups require special research attention. Although there is a large number of scientific and professional researches in the world that study this issue more thoroughly, studies that analyze the current state of affairs and specifics of Croatian startups as well as the key issues that they are facing are still missing. For these reasons, authors conducted a primary research whose main goal was to gain a clear insight into the current state of Croatian startups, the industries in which they operate, the sources of financing they use, their ownership structure, financial indicators, specifics of the internationalization process, investments in research and development, and other business specifics and management expectations. Based on the results obtained, it is possible to compare the state of the startup scene in Croatia with the situation in other countries and propose appropriate measures for its improvement. The research was conducted through a questionnaire that was distributed to a random sample of 100 startup companies. The results of the research have shown a weak interaction of domestic startups with foreign entities, weak focus on foreign sources of funding, and poor differentiation of the sources of funding used, especially when it comes to exploiting opportunities offered by venture capital funds, crowdfunding etc. Approximately half of the Croatian startup companies make their first sales revenues in the first year of existence and most of them make a positive financial result already within the first two years of doing business, which are specificities that indicate a clear distinction between ways of doing business and the expected time frame for return on investments among Croatian and global startups. Approximately 40% of Croatian startups make less than 5% of their total revenues on foreign markets, which may indicate a lack of ambition of the owners or company executives, but may implicitly point to the lack of innovation in business models in the global context.

Key words: *startup, internationalization, Croatia, entrepreneurhip, sources of funding.*

SAŽETAK

Startup poduzeća u mnogim od najrazvijenijih zemalja svijeta predstavljaju izuzetno bitnu polugu gospdarskog i društvenog razvoja. Zbog inherentnih karakteristika koje ih razlikuju od ostalih poduzetničkih pothvata (npr. skalabilnost, stope rasta, izvori financiranja, inovativnost poslovnih modela itd.) startup poduzeća zahtijevaju posebnu istraživačku pažnju. Premda u svijetu postoji veliki broj znanstvenih i stručnih istraživanja koje detaljnije izučavaju ovu problematiku, istraživanja kojima bi se detaljnije analiziralo trenutno stanje i specifičnosti hrvatskih startup poduzeća, kao i ključni problemi s kojima se susreću još ne postoje. S tom svrhom autori su proveli primarno istraživanje čija je osnovni cilj dobiti jasne uvide u trenutno stanje hrvatskih startup poduzeća, industrija u kojima djeluju, izvorima financiranja koje koriste, vlasničkoj strukturi, ostvarenim financijskim pokazateljima, specifičnostima procesa internacionalizacije, ulaganjima u istraživanje i razvoj, te ostalim poslovnim specifičnostima i menadžerskim očekivanjima. Na temelju dobivenih rezultata moguće je usporediti stanje startup scene u Hrvatskoj sa stanjem u drugim zemljama, te predložiti odgovarajuće mjere za njeno unapređenje. Istraživanje je provedeno putem anketnog upitnika koji je bio distribuiran slučajnom uzorku od 100 startup poduzeća. Rezultati istraživanja ukazali su na slabu interakciju domaćih startup aktera s inozemnima, slabu usmjerenost na inozemne izvore financiranja, te slabu diferenciranost korištenih izvora financiranja, posebice kada je riječ o iskorištavanju mogućnosti koje nude fondovi rizičnog kapitala, skupnog financiranja (eng. crowdfunding) i dr. Otprilike polovica hrvatskih startup poduzeća ostvaruje prve prihode od prodaje već u prvoj godini postojanja, a većina ih ostvaruje i pozitivan financijski rezultat već unutar prve dvije godine poslovanja, što su specifičnosti koje ukazuju na jasnu distinkciju između načina poslovanja i očekivanog vremenskog okvira za povrat na investicije među hrvatskim i svjetskim startup poduzećima. Otprilike 40% hrvatskih startup poduzeća ostvaruje manje od 5% ukupnih prihoda na stranim tržištima, što može upućivati na nedostatak ambicioznosti vlasnika odnosno upravljačkih struktura, ali implicitno može upućivati i na manjak inovativnosti poslovnih modela u globalnom kontekstu.

Ključne riječi: *startup, internacionalizacija, Hrvatska, poduzetništvo, izvori financiranja.*

1. Introduction

Although nine out of ten startups fail (Christensen and Aschaiek, 2018, 63) and 71% of startups don't return capital invested (STARTUP M&As – Report, 2017), startup entrepreneurship is extremely crucial because of high speed of development, innovations, new jobs and bringing competitive dynamics into the business environment. No one can`t deny the importance of this movement today to the global economic growth and each country accordingly (Garaeva, 2016, 134). Throughout 2016 there have been more than 15.500 startup exits worth more than USD 1.3 trillion (STARTUP M&As – Report, 2017).

US has always been number one country when it comes to any kind of startup activities. However, over the last two decades Europe has experienced a startup revolution (Duruflé, 2017, 1). Europe is growing faster compared to the US, even if the gap remains huge, with US corporates acquiring over 3 times more startups than European counterparts (STARTUP M&As – Report, 2017).

Although term "startup" was coined and used for the first time back in 1939 (Garaeva, 2016, 134) by former founders of Hewlett-Packard, it is up to now difficult to find universally accepted definition of startup.

According to business dictionary[1] startup represents an early stage in the life cycle of an enterprise where the entrepreneur moves from the idea stage to securing financing, laying down the basis structure of the business, and initiating operations or trading.

Croatian Business Angels' Network[2] define startup as a company or organization created with the intent to explore repetitive and scalable business models. Not every new company can be considered a startup. Startup is a newly established or recently established company with global ambitions and global potential.

Some scholars (Klačmer Čalopa et al., 2014, 20) define startup companies as newly founded companies or entrepreneurial ventures that are in the phase of development and market research. They are usually, but not necessarily, associated with high-tech projects because their product is mostly software which can be easily produced and reproduced.

Neil Blumenthal, executive manager of Warby Parker, believes that startup is a company that works on solving problems where the solution is unclear and success is not guaranteed[3].

According to all of the above, we will define startup as a newly established or recently established company that is in its initial stage of development whose product or service innovatively addresses the problem where the solution is unknown. As a result, startup is in search of new repetitive and scalable business models, and the product or service that is being launched is currently not offered elsewhere on the market.

Because of the inherent characteristics that distinguish them from other entrepreneurial ventures (e.g. scalability, growth rates, funding sources, business model innovations, etc.), startups require special research attention. Although there is a large number of scientific and professional researches in the world that study this issue more thoroughly, studies that analyze the current state of affairs and specifics of Croatian startups as well as the key issues that they are facing are still missing.

Possible reason might be to a certain degree underdevelopment of startup scene, which bears its implications on determining target population and sampling frame. In addition, startups cannot provide key figures (quantitative data) usually gathered from well established companies (Jung, 2014, 47).

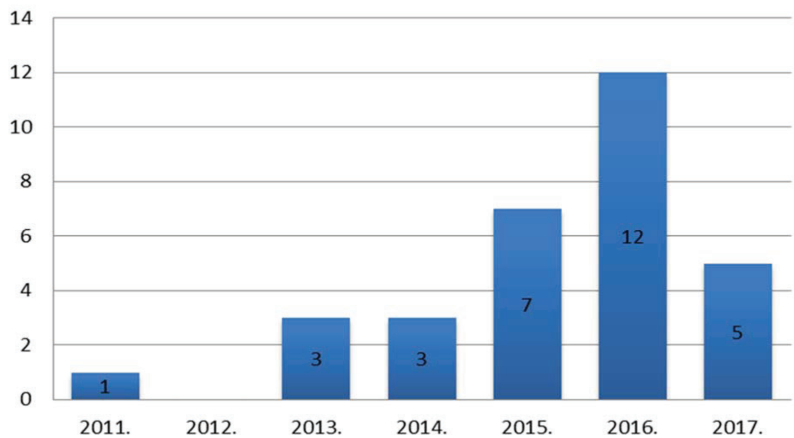
2. Research findings

In order to gain more insight into current state of Croatian startup companies and to be able to determine where they stands compared to its peers, authors conducted a primary research. For the purposes of our study, questionnaire was used as a main research instrument. It had been distributed via e-mail to a sample of startup companies with a great help of several startup incubators who had respective contacts and greatly helped with the dissemination of the questionnaire. These incubators operate within Istrian, Dalmatian and Slavonian region, as well as city of Zagreb through witch we have insured geographical distribution of research sample throughout the whole country. Questionnaire was sent to members of the survey sample in July 2017. After one-month period, reminder was also sent. Sample was random and consisted of 100 companies, out of which 31 responded to the survey.

[1] Business Dictionary, http://www.businessdictionary.com/definition/startup.html, (accessed 5 March 2018).
[2] Croatian Business Angels' Network, http://www.crane.hr/startup/, (accessed 13 March 2018).
[3] Forbes, https://www.forbes.com/, (accessed 20 March 2018).

Majority of startup companies (i.e. 77%) from the research sample had been established during the last three years (Graph 1).

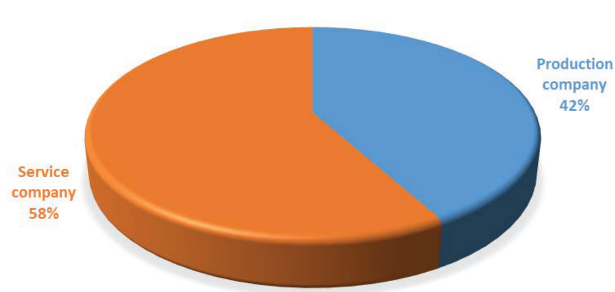
Figure 1 *Year of establishment of startups*



Source – authors' own research based on collected data

Production enterprise often requires higher initial investments and is subsequently more risky undertaking than the service one. Taking into account characteristics of Croatia in terms of availability of resources, productivity of work force, industrial capacity etc. it was expected that more startups will classify themselves as service companies as opposed to production companies. This was indeed the case (Figure 2), and 58% of companies in the survey sample denoted themselves as service companies. According to the research, the greatest number of startups has registered for doing operations in IT sector, followed by the manufacturing/ processing industry and professional, scientific and technical industry. Remainder of companies has registered for construction industry and hotel industry.

Figure 2 *Classification of startups*

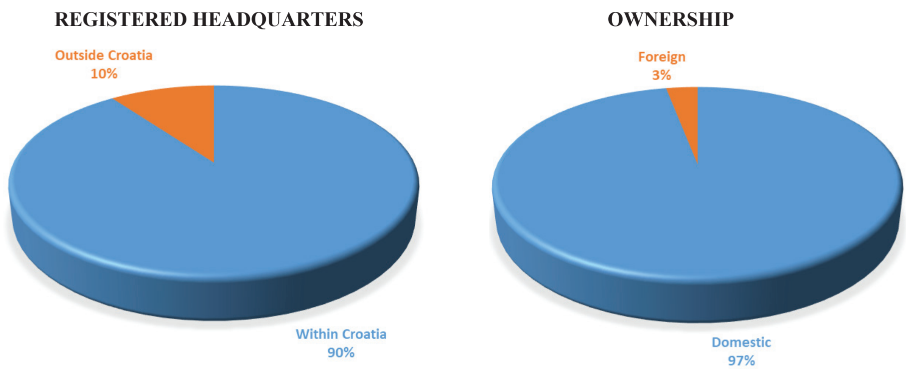


Source – authors' own research based on collected data

When it comes to ownership structure, research results have shown that 97% of the surveyed startup companies were owned by domestic subjects, while only one company was owned by foreign subjects. There were no companies with mixed (domestic plus foreign) ownership. This may indicate a weak interaction of domestic startups with foreign business entities, wherefore joint projects, partnerships or startups do not come into being. 90% of startup companies had their headquarters registered within the Republic of Croatia, while remaining 10% registered their company headquarters abroad (Figure 3).

Important thing that has to be taken into concern is that 38,7% of startup companies plan to alter its registered headquarters and shift them outside of Croatia. As main drivers behind this decision they have indicated easier access to markets, easier access to financing, less bureaucracy and easier access to production factors.

Figure 3 *Registered headquarters and ownership structure of startups*



Source – authors' own research based on collected data

Financial means are a fundamental resource for venturing a new enterprise, and eventually linked to start-up success (Audretsch and Lehmann, 2004; Achleitner et al., 2011; Hechavarría, 2016, 164). If company wants to scale-up it can not stay private for a very long time. Liquidity needs as well as search for efficiency puts pressure on private owners to find new investors or go public (Duruflé, 2017, 16). As far as sources of financing are concerned, 50% of startup companies base their venture exclusively on their own financial sources, while the remaining 50% combines different sources of funding (most frequently combining their own financial sources with some other). It can be concluded that majority (97%) of Croatian startups uses their own financial sources as means of starting a business venture, followed by financial sources of friends and family (23%).

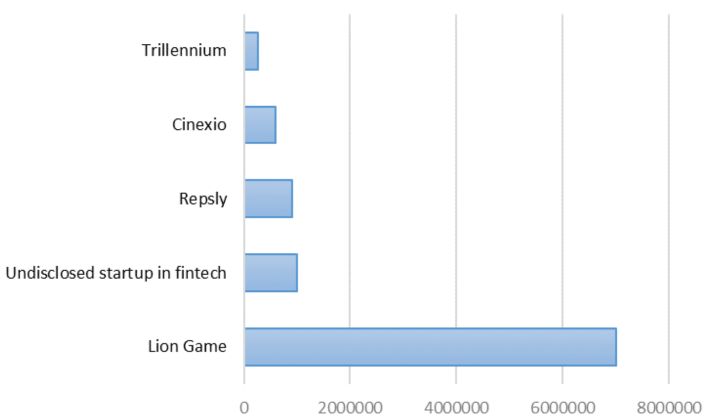
Venture capital funds (9,7%), crowdfunding (6,5%) and different financial loans (3,2%) showed up to be weakly present as sources of funding in Croatian startups. Minority of Croatian startups (11%) utilizes sources of state and municipal authorities as well as EU funds (all in form of grants) to finance their business ventures.

The reasons for the low differentiation of financial sources and low focus on external (especially international) sources may be poor acquaintance with various forms of corporate financing, unwillingness to hand over ownership or control over the enterprise or simply reluctance to borrow third party funds to finance risky endeavour. Control and independence are challenged if external investors are granted ownership of the business (Bhide 1992; Sapienza et al. 2003). Thus, the fear of losing control over the venture affects entrepreneurs' attitude towards, and therefore the utilization of external financing sources (Ang 1992).

Demand side factors about the quality of the startups are deeply intertwined with supply-side factors (i.e. supply of capital). Sectors that can attract venture capital are by-and-large innovation-based companies that involve some aspects of technology. This includes the IT sector broadly defined, the life sciences as well as other miscellaneous other science and technology-driven sectors (Duruflé, 2017, 32). In other words, part of the explanation why external funds are not sufficiently used by Croatian startups might be on the supply side, i.e. insufficient attractiveness of industrial sector they plan to operate in. In addition, it has to be taken into account that a firm's capital structure decisions are also influenced by its institutional context, (e.g. national economic environments and institutions) or typical borrower-lender relationships (Ampenberger et al. 2009; Antoniou et al. 2008).

In the very early stage, the common financing source for startup companies is angel investors, and it is a startup founder's job to persuade angel investors to invest their funds in the business (Widyasthana et al., 2017, 2). Business angels are viewed as a particularly relevant stakeholder group as they provide capital in the early stage phase (Jung, 2014, 47). None of the examinees stated they utilized financial sources of business angels. According to data available from Croatian business angels' network[4], members of crane had invested around EUR 3 million up to 2015. In addition, according to Zagreb startup incubator[5] 7,25% of all startup investments in 2015 came from business angels and Croatian Agency for SMEs, Innovation and Investments (HAMAG Bicro). The obvious question that arises here is – where do funds of business angels go to, since none of the examinees stated they had received any funds from their side. The answer might be somewhat unsurprising – it seems that majority of funds are unevenly distributed among only a few startups (Figure 4). Out of approximately EUR 11 million distributed among startups throughout 2015, almost 65% of all funds had been channelled to a single venture, while top 3 startups attracted more than 80% of all funds available and top 5 startups attracted almost 90% of all the invested funds.

Figure 4 *Top five investments in Croatian startups in 2015 (in EUR million)*



Source - research of ZIP incubator, 2015 (available at: https://www.tportal.hr/tehno/)

The number of employees in examined research sample of Croatian startup companies ranges between one and fifteen persons, designating Croatian startups (according to the criteria set by European Commission) as micro or small enterprises. One third of examined startups had only one employee, most often the underlying company founder. Consequently, company founder is most often a general manager, which is to a great extent expected since many entrepreneurs have a self-determination motive and want to retain control over their venture (Bhaird and Lucey 2010).

[4] Croatian Business Angels' Network, http://www.crane.hr/, (accessed 13 March 2018).
[5] Zagreb Entrepreneurship Incubator, available at https://www.tportal.hr/tehno/, (accessed 20 March 2018).

Distinctive feature of new venture financing is that new firms are disproportionately dependent on their owners and the boundaries between the firms as organizations and entrepreneurs as persons are often not clear-cut (Astebro and Bernhardt 2003; Cassar, 2004).

Within the two-year period, all startups from the sample are expecting an increase in the number of employees. At a time when a business life cycle reaches the stage of maturity, most entrepreneurs expect the number of employees to be between ten and twenty people, which will still leave todays' startups within the category of small companies.

Number of conclusions may be drawn from the number of current and expected employees. When considering scope of the project or scalability of researched startups, it can be noticed that most of Croatian startups since their very beginnings do not have significant scope or scale aspirations. This can easily be seen from the fact that company founders (which are also current managers) by all means expect the company to stay within the category of small companies even when company reaches the stage of maturity. In public discussions there are a lot of expectations from SME sector especially when it comes to new job creation. Findings of this research might be a good basis to instigate further research on this matter, because it might seem that expectations in this regard might be exorbitant.

Approximately half of examined startups made the first sales' revenue within the very first year of starting the business. One third of startups made the first sales' revenue within the first two years, while it took the rest longer than two years. For those startups that were established in 2017, most entrepreneurs expect to earn first sales revenue within the next two years.

Two-thirds, or 67% of startups reported they achieve positive financial result (profit) already. Most of the examined startups achieved a positive financial result within the first two years of business. Those startups that do not yet have a positive financial result expect to realize it over the next five years. More specifically, companies established in 2017 expect to achieve positive financial result over the next two years, while companies established from 2013- 2016 expect to achieve a positive financial result over the next 5 years.

To draw a more robust conclusions from the data collected, we would need more detailed information pertaining to the level of initial investments, scope of the project, industry within each startup operates so we could compare it to its international peers. However, it seems that these finding are in line with our previous ones, i.e. they might be indicating that managers of Croatian startups are more focused on achieving profits than on future growth.

Research findings pertaining to the internationalization processes are quite interesting, although much in line with previous findings. Somewhat less than 30% of companies are focused on doing business exclusively on a domestic market. In other words, all their revenues come from Croatian customers. In addition, somewhat more than 20% of startup companies do business on up to two markets besides domestic one. As already mentioned, this data seems to reveal that a significant share of domestic startups do not have significant scope or scale aspirations. Around 20% of startups sells or plans to sell their products on 10 or more different markets, while the remainder is focused on 3-5 different international markets.

We could say that companies that most of the companies (60%) were truly *born globals* since it took them up to one year to internationalize its business operations, i.e. sell their products on foreign markets. This confirms scope of these companies was international market since the very inception of respective startups. More than 40% of these companies make up more than 70% of their revenues on foreign markets.

Once startup companies reach maturity phase their managers expect to make (on average) 76,8% of total revenues on international markets. Only 6,5% of companies expect they will be making less than 50% of total revenues on foreign markets, while 53,5% of companies expect their share of international revenues in total revenues will be 80% or greater. These findings are not completely in line with the previous ones and may be indicating overoptimistic expectations of respective managers.

3. Conclusion

Our findings have revealed quite interesting features of the current state of Croatian startups. First key point refers to the ownership and investment structure. It seems that significant interaction between domestic startups and foreign business entities is relatively weak. Researches from other scholars strongly suggest that external sources of funding are crucial if company wants to scale up, i.e. realize its full potential. It is not only a matter of additional funds that enable startups to expand, but also know-how, business expertise and market experience as well. In our paper we assumed some of the reasons behind it (poor acquaintance with various forms of corporate financing, control and independence issues, institutional context, factors influencing supply side of capital etc.). However, in order to fully comprehend exact reasons behind it additional research is necessary.

Different aspects of our research seem to indicate to the lack of scale or scope aspirations of most of domestic startups. First indicator pointing to that direction is the fact that company founders (i.e. current managers) by all means expect the company to stay within the category of small companies even when company reaches the stage of maturity. In public discussions there are a lot of expectations from SME sector especially when it comes to new job creation. Findings of this research might be a good basis to instigate further research on this matter, because it might seem that expectations in this regard might be exorbitant.

Another indicator pointing to the same direction is that approximately half of examined startups made the first sales' revenue within the very first year of starting the business and reached profitability within first two years. Research from other scholars shows that significant proportion of foreign startups reaches a profitable business model during the scale-up phase (usually final phase before the exit phase or sale of entire company to corporate investor) or not event then. Most of the newly founded Croatian startups reported they expect to reach profitability during the first two years since establishment. Although everything seems to point out that most of managers of Croatian startups are more focused on achieving profits than on future growth, to draw a more robust conclusions additional research is necessary.

In addition, approximately one third of examined startups does business exclusively on Croatian market, while half of examined companies does business on up to two markets besides domestic one. Interestingly, once startup companies reach maturity phase their managers expect to make (on average) 76,8% of total revenues on international markets. This might be indicating to overoptimistic expectations of respective managers, however conclusion is weak and needs more investigation.

REFERENCES

Achleitner, A., Braun, R. i Kohn, K. (2011): ***New venture financing in Germany: Effects of firm and owner characteristics***, Zeitschrift für Betriebswirtschaft, vol. 81, no. 3, pp. 263-294.

Ampenberger, M., Schmid, T., Achleitner, A-K., Kaserer, C. (2013): ***Capital structure decisions in family firms—empirical evidence from a bank-based economy,*** Review of Managerial Science, Vol. 7, no. 3, pp 247–275.

Ang, J. S. (1992): ***On the theory of finance for privately held firms,*** Journal of Small Business Finance, Vol 1, pp. 185–203.
Antoniou, A., Guney, Y., Paudyal, K. (2008): ***The determinants of capital structure: capital market orientated versus bank-orientated institutions,*** Journal of Financial and Quantitative Analysis, Vol. 43, No. 1, pp. 59-92.
Audretsch, D., Lehmann, E. (2004): ***Financing high-tech growth: the role of banks and venture capitalists,*** Schmalenbach Business Review, Vol. 56, no 4, pp. 340–357.
Bhaird, C., Lucey, B. (2010): ***Determinants of capital structure in Irish SMEs,*** Small Business Economics, Vol. 35, no 3, pp. 357–375.
Bhide, A. (1992): ***Bootstrap finance: the art of start-ups,*** Harvard Business Review, Vol. 70, no. 6, pp. 109-17.
Cassar, G. (2004): ***The financing of business start-ups,*** Journal of Business Venturing, Vol. 19, no 2, pp. 261-283.
Christensen, K. i Aschaiek, S. (2018): ***A start-up is born: the story of helpful,*** Rotman management magazine, Winter issue, pp. 1-7.
Duruflé, G., Hellmann, T. i Wilson, K.E. (2017): ***From start-up to scale-up: examining public policies for the financing of high-growth ventures***, Bruegel Working Paper, no. 04, pp. 1-44.
Garaeva, D. (2016): ***Startups in the context of the digital single market: comparative analysis of EU and Russian legislation frameworks,*** Intereulaweast, Vol. 3, no. 1, pp.133-143.
Hechavarría, D.,M., Matthews, C.H. i Reynolds, P.D. (2016): ***Does start-up financing influence start-up speed? Evidence from the panel study of entrepreneurial dynamics***, Small Business Economics, vol. 46, no. 1, pp. 137-167.
Jung, S. (2014): ***Development of a heuristic rating model for the classification of know-how-intensive and technology-oriented start-ups (KITSS) in Austria,*** International journal of multidisciplinarity in business and science, Vol. 2, no. 2, pp. 46-50.
Klačmer Čalopa, M.K., Horvat, J. i Lalić, M. (2014): ***Analysis of financing sources for start-up companies***, Management, Vol. 19, no. 2, pp. 19-44.
Sapienza, H.J., Korsgaard, M.A., Forbes, D.P. (2003): ***The self-determination motive and entrepreneurs' choice of financing*** in: Katz JA, Shepherd DA (eds) Advances in entrepreneurship, firm emergence and growth: cognitive approaches to entrepreneurship research, Emerald, Oxford.
Widyasthana, S., Wibisono, D., Purwanegara, M.S., Siallagan, M., Sukmawati, P. (2017): ***Corporate venture capital strategy for selecting start-up investments in Indonesia using an agent-based model: cases of a mobile application start-up, payment solution start-up and digital advertising start-up***, Journal of Entrepreneurship Education, Vol. 20, no 2, pp. 1-24.
Business Dictionary, http://www.businessdictionary.com (accessed 5 March 2018)
Croatian Business Angels Network, http://www.crane.hr (accessed 13 March 2018)
Forbes, https://www.forbes.com (accessed 20 March 2018)
Startup M&As 2017 Report (2017). https://mindthebridge.com/startup-mas-report-2017 (accessed 19 March 2018)
Zagreb Entrepreneurship Incubator, http://www.zipzg.com (accessed 20 March 2018)

Željka Zavišić, PhD
Zagreb School of Business
Ulica grada Vukovara 68, 10000 Zagreb
E-mail address: zeljka.zavisic@pvzg.hr

Neven Šipić, Msc
Zagreb School of Business
Ulica grada Vukovara 68, 10000 Zagreb
E-mail address: neven.sipic@pvzg.hr

Senka Zavišić, mag. phil. at hist.
Polytechnic Lavoslav Ružička Vukovar
Županijska 50, 32 000 Vukovar
E-mail address: senkaza@gmail.com

FUNCTIONAL FOOD AS A OPPORTUNITY FOR THE DEVELOPMENT OF EASTERN CROATIA

FUNKCIONALNA HRANA KAO PRILIKA ZA RAZVOJ ISTOČNE HRVATSKE

ABSTRACT

Functional food is a promising and dynamic part of the fast-growing food industry, thanks to consumers' understanding of the close connection between nutrition and health.
Increasing awareness of consumers about healthier food choices, its possibilities and advantages provided by increasing the quality of life, ensure that products with such characteristics are faster and more easily accepted on the market.
Considering that the eastern Croatia region, which is quite focused on agricultural production, the paper will attempt to explore the potential of fully functional food reception in Slavonia, current consumer awareness of the functional food concept and factors affecting the purchase and consumption of the specified food.
Descriptive and inferential statistics methods were used in the research. In order to research the dependence of selected features, a hi-squared test was applied. Due to the character of the individual questions and the scales on which the responses to them were expressed, the differences between the Mann-Whitneyev and Kruskal-Wallis test were used in the study of the significance of the differences.
Research results can give an insight into the potential of functional food production in eastern Croatia which could reflect on economic development.

***Key words**: consumers, functional food, eastern Croatia, economy.*

SAŽETAK

Funkcionalna hrana predstavlja obećavajući i dinamički dio prehrambene industrije koji se sve brže razvija zahvaljujući razumijevanju potrošača o uskoj povezanosti prehrane i zdravlja.
Povećanje svijesti potrošača o zdravijim izborima hrane, njenim mogućnostima i prednostima osigurava povećanje kvalitete života, a proizvodi sa takvim svojstvima su brže i lakše prihvaćeni na tržištu.

S obzirom da je istočna Hrvatska regija koja je znatno usmjerena na poljoprivrednu proizvodnju, u ovom radu će se nastojati istražiti potencijal potpunog prihvaćanja funkcionalne hrane u Slavoniji, trenutna upoznatost potrošača sa konceptom funkcionalne hrane, te čimbenici koji utječu na kupnju i konzumaciju navedene hrane.
U istraživanju su korištene metode deskriptivne statistike i inferencijalne statistike. Kako bi se ispitala ovisnost izabranih obilježja primijenjen je hi-kvadrat test. Zbog karaktera pojedinih pitanja i mjerne skale na kojoj su iskazani odgovori na njih u ispitivanju značajnosti razlika korišteni su neparametarski Mann-Whitneyev i Kruskal-Wallisov test.
Rezultati istraživanja mogu dati uvid u potencijal proizvodnje funkcionalne hrane u istočnoj Hrvatskoj koji bi se odrazio i na gospodarski razvoj.

Ključne riječi: *potrošači, funkcionalna hrana, istočna Hrvatska, gospodarstvo.*

1. Introduction

The challenge behind understanding the concept of relationship between diet and health resulted in the creation of a new concept, functional products, which is a new practical approach in balancing diet while aiming to achieve optimal healthcare state and the possibilities of reducing the risk of developing illness. Rising consumer awareness on healthy food choices, its possibilities and advantages ensures increasing quality of life. However, for functional food to become a generally accepted product, it is important to connect research with marketing and important feedback gathered by tracking consumer attitudes in relation to functional product so it could meet customer expectation (Čalić et al., 2011, 51-58).
Functional food represents a sustainable market food category just because of long-term societal movements, such as socio-demographic trends that imply higher life standard, longer life span, better healthcare, higher education level in larger part of society etc. (Bech-Larsen; Scholderer, 2007, 231-234).
Scientists and, what is more important, consumers, started accepting the fact how close a connection is between health and diet type between (Menrad, 2003, 181-188).
Consumers are increasingly informing themselves about health aspects of a healthy diet and readily accepting changes in eating habits, which leads to the fact that they accept new products with alleged properties quicker and easier (Niva, 2007, 384-393)
Functional food represents a promising and dynamic part of food industry that is rapidly growing thanks to a better understanding of a close relationship between diet and health. In order to add to the understanding of relationship between diet and health, it is necessary to develop a new approach to developing new products and approaching consumers (Čalić et al., 2011, 56).
Economy of east Croatia consists mainly of secondary activities (processing industry), public administration activities (public administration and defence), agricultural activities, services and real estate activities. Agriculture is a main industry in many counties such as Virovitičko-podravska where agriculture makes a substantial proportion of GDP.
Fundaments of economic development of Osječko-baranjska county are agriculture and industry, which capacities are insufficiently used due to parcelisation of agricultural areas, low level of technological preparedness and a lack of foreign and domestic investments.
Natural beauties of the county add to the development of rural tourism. Preserved and rich natural resources, existing economic capacities and their modernisation followed by a favourable geographical position result in traditionally export orientation, and county's economy has been regularly achieving surplus in a trade exchange with about hundred countries. Development of IT industry and orientation towards energy production from renewable resources are taking a more important place in the county's economy (HGK, 2016).
From the above mentioned, it is clear that east Croatia has more potential for production of food products with functional attributes, which will become more present on domestic, as well as

international markets. Higher end price, familiarity and consumers' readiness for buying, together with exports, could enable producers to reach higher profits.

2. Concept of functional food

The concept of functional food includes that by consuming it, one will improve body’s general state or prevent the development of illnesses.
While earlier research was more focused on the concept of functional or enriched food in whole, recent studies divert towards specific product categories and specific product types (Verbeke et al., 2009, 684-692).
Moreover, research was done on a combination of different health statements and different products groups, as well as different scientific claims in combination with different health benefits. Results of such analyses show that some consumer perceptions and reactions, such as perceived credibility and product's uniqueness depend on specific claims related to the product. Researches concluded that the claim on decreasing the risk of illness is more effective on increasing buying intentions than a claim on some health function of organism, while claims on appearance were not significant for attractiveness, credibility and stringency (van Kleef, 2005, 299-308).
For functional food, (Heasman; Mellentin, 2012, 7) it is necessary to emphasize four important aspects:

- the development and marketing of functional food,
- acceptance from consumers
- regulatory and legislative policies
- scientific and technological advancements.

Set forth aspects represent an opportunity for all participants through direct and indirect influence on food industry and economy’s competitiveness.

2.1. Functional food as a competitive advantage

Food companies in east Croatia can create competitive advantage by successfully using differentiation strategy, which is based on competitive positioning that enables the best position in the industry.
Differentiation strategy comes down to modelling and adjusting business activities and assortment which enables a company to be better and different than its competition. Differentiation should offer customers something unique and especially valuable to them, something competitors in the industry cannot offer.
While functional products are in the higher price category, the main competitive advantage of functional food is product differentiation that, among other things, requires continuous investments in R&D and innovations in order to offer premium price products with added value to the market.
The advantage of east Croatia is its geographical position that is extremely suitable for planting different fruits, vegetables, healing and aromatic herbs that have a potential for producing functional products.

3. Consumer familiarity with the concept of functional food and their buying habits

A more comprehensive research about consumer familiarity with a concept of functional food was performed on a random sample in August of 2012, and some data relevant for the topic were used for this paper (Zavišić, 2014). A survey was conducted in two cities: Zagreb and Osijek. Zagreb was chosen as Croatia’s capital and largest city, and Osijek as centre of eastern Croatia’s and a centre of agricultural production. Due to specific socioeconomic reasons (differing levels of cities’ development), the choice between these two cities seems logical. A questionnaire consisted of questions related to consumers’ familiarity to the concept of functional food and their buying habits related to such products. 198 out of 313 respondents (63,26%) reportedly never heard of a term „functional food“. The following table contains the division of respondents based on their attitude towards what „functional food“ represents for them.

Table 1 *Division of respondents related to the perception of the term „functional food“*

Perception of a term "functional food"	No. of respondents	Percentage
Healthy food	17	8,59
Food with specific benefits for the body	144	72,73
Expensive food	1	0,51
All of the above	36	18,18
Total	198	100,00

Source: Auhor's

For most of the respondents, the term „functional food” represents food with added benefits for the body. Only one respondent associated the term „functional food” with expensive food.
Table 2 represents the division of respondents based on defined characteristics (place of residence, gender, age, education and monthly income) and perception of the term „functional food”. The table also contains the results of chi-squared characteristics independence test that is used to examine the connection of defined characteristics and the term „functional food”. Since only one person perceived functional food as expensive, for the purpose of hypotheses testing, the answer has been disregarded.
The following table contains chosen descriptive statistics ratios (arithmetic mean, median, mode, st.dev. and coef. of variation) calculated for the two mentioned research variables.

Table 2 *Chosen descriptive statistic ratios related to buying frequency*

Functional food buying frequency	Arithmetic mean	Median	Mode	St. Dev.	Coef. Of Variation
	2,35	2,00	2,00	0,71	30,18

Source: Auhor's

Even though there are opposing views on using the arithmetic mean, and indicators based on it, in the case of variables measured on Likert scale, we used them in the analysis order to make choosing easier. According to median, half of respondents rated the frequency of buying functional food with a grade 2 or lower, while the other half with a grade 2 or higher. Mode also had number 2 as value. So, most of the respondents stated they bought functional food occasionally. Standard deviations and coefficients of variationindicate that variability level of answers on both questions can be considered small.
With the aim of analysing the significance of differences in buying frequency between respondents from Zagreb area and surroundings, and Osijek and surrounding area, we applies the Mann-Whitney test (table 21).

Table 3 *Results of testing the significance of differences in buying frequency related to place of residence (Mann-Whitney test)*

Functional food buying frequency	Average rank (area)		*Z*	*p*
	Zagreb and surrounding area	Osijek and surrounding area		
	108,52	87,26	-3,241	0,001

Source: Auhor's

Both cases have a higher average rank calculated for respondents from Zagreb and its surroundings, but according to Mann Whitney test, statistically significant difference is only in buying frequency of functional food.
The following table contains results of Mann-Whitney test used for the purpose of testing the significance of differences in buying functional food and drinks considering the consumer's gender.

Table 4 *Results of testing the significance in differences related to buying frequency related to gender (Mann-Whitney test)*

Functional food buying frequency	Average rank (gender)		*Z*	*p*
	Male	Female		
	86,27	110,52	-3,724	0,000

Source: Auhor's

A higher average rank was calculated for female respondents. Based on Mann-Whitney test, it can be concluded that there is a significant difference between male and female consumers in functional food's buying frequency. It is therefore evident that women buy functional food more often than men.
With an intention to test the significance of differences in functional food's buying frequency related to consumer's age, we conducted Kruskal-Wallis test (table 5).

Table 5 *Results of testing the significance of differences in buying frequency related to age (Kruskal-Wallis test)*

Functional food buying frequency	Average rank (gender)			*H*	*p*
	24 and less	25 – 38	39 and more		
	101,13	102,57	90,41	2,090	0,352

Source: Auhor's

The highest average rank in both cases is determined for respondents aged between 25 and 38 year of age, and the lowest for respondents that were 39 years old and older. According to Kruskal-Wallis test, there is no case where there was statistically significant difference in buying frequency between at least two age groups.
Table 6 contains the results of Mann-Whitney test used with a purpose of testing the significance of differences in buying functional food related to level of education.

Table 6 *Results of testing the significance of differences in buying frequency related to education level (Mann-Whitney test)*

Functional food buying frequency	Average rank (education level)		*Z*	*p*
	Associate degree or higher	High school		
	107,70	92,54	-2,328	0,020

Source: Auhor's

In case of functional food buying frequency, a higher average rank is calculated for respondents with associate or higher degree. Mann-Whitney test shows that there is a statistically significant difference in functional food buying frequency related to education level, indicating that such provisions are more often bought by people with associate degree or higher. The following table contains the results of Kruskal-Wallis test used with a purpose of testing the significance of differences in buying functional food related to monthly income.

Table 7 *Results of testing the significance of differences in buying frequency related to monthly income (Kruskal-Wallis test)*

Functional food buying frequency	Average rank (monthly income)			*H*	*p*
	Less than 2000	2000 – 5000	5000 and more		
	101,26	90,24	111,18	7,137	0,028

Source: Auhor's

The highest average ranks in both cases are determined for respondents with monthly income of 5000 or more kunas, and the lowest for respondents that have a monthly income between 2000 and 5000 kunas. According to Kruskal-Wallis test, there is a statistically significant difference between at least two income groups in functional food buying frequency. In order to determine between which income groups there is a statistically significant difference, we conducted a Mann-Whitney test.

Table 8 *Results of Mann-Whitney test*

Functional food buying frequency	Mann-Whitney test	Compared groups (monthly income)		
		Less than 2000	Less than 2000	2000 – 5000
		2000 – 5000	5000 and more	5000 and more
	Z	-1,452	-1,090	-2,704
	p	0,147	0,276	0,007

Source: Auhor's

Results of Mann-Whitney test shows there is a statistically significant difference in functional food buying frequency between respondents with monthly income from 2000 to 5000 kunas and respondents earning 5000 or more kunas.

Five respondents that stated they heard the term „functional food" never buy such food. Table 9 contains the division of respondents according to functional food category that they most often buy.

Table 9 *The division of respondents according to the functional food category that they most often buy*

Functional food category	**Number of respondents**	**Percentage**
Milk products	70	36,27
Products enriched with omega-3 fatty acids	27	13,99
Fruit juices	46	23,83
Other products	15	7,77
All of the above	35	18,13
Total	193	100,00

Source: Auhor's

Most of the respondents stated that they most often buy milk. Such were more that a third of surveyed people. After them, based on numbers, are respondents who stated they buy fruit juices.
All of the above mentioned (milk products, products enriched with omega-3 fatty fluids, fruit juices and other products) are most frequently bought by less than a fifth of respondents. The least represented group in a sample was the one that stated they most often buy other products.

4. Conclusion

It is evident, from the research, that Croatian consumers are getting increasingly informed about functional food. There are differences in the level of awareness, financial possibilities and buying habits between consumers from central and eastern Croatia. However, attitudes of all respondents indicate the possibility of functional food to represent a new economic opportunity for food industry and the competitiveness of economy.
Table 2 clearly shows that most respondents stated to buy functional food occasionally, while it can be noted that respondents from Osijek and surrounding areas buy functional food less frequently (table 3). Women buy functional food more frequently then men in both cities, but also consumers aged between 25 and 38 years old.
Average functional food buyers are usually people with associate degree or higher (table 6), and with monthly income of 5000 kunas or more (table 7).
Functional milk products are the most frequently bought functional food products from all categories.
Since there is a trend of an increased consumer interest in the quality of food with it being available, all the product and services categories related to that trend are achieving impressive growth rates, and it is imperative to emphasize the benefits of functional food to consumers and to raise the level of awareness about health aspects of such products.
These results clearly point to a profile of customers who are buying such products in present, and point to those who need to get targeted by marketing efforts more.
In marketing campaigns, it is primarily related to the opportunity of creating and using communication channels, such as medical practitioners, internet portals related to health issues, and specialised fairs related to a healthy diet.
Considering the fact that eastern Croatia is the most underdeveloped region in the country, it is necessary to create a sound development strategy. Investing in the production of functional food might be the direction in which eastern Croatia should develop in the coming period and develop to protect and grow family run farms, and to create predispositions for long-term survival which would result in new employment opportunities in agriculture, economy and continental tourism. Increased production, buying and using functional food would probably increase the standard of living for the residents of eastern Croatia.

REFERENCES

Bech-Larsen, T.; Scholderer, J.(2007): ***Functional foods in Europe: Consumer research, market experiences and regulatory aspects***, Trends in Food Science & Technology, 18, 2007., pp. 231–234.

Čalić, Friganović, Maleš, Mustapić (2011): ***Funkcionalna hrana i potrošači***, Praktični menadžment, stručni časopis za teoriju i praksu menadžmenta, vol.2, No.2, June 2011., pp. 51-58.

Heasman, M.; Mellentin, J.(2012): ***The Functional Foods Revolution: „Healthy People, Healthy Profits“***, Routledge, pp. 7.

HGK (2016), Sektor za financijske institucije, poslovne informacije i ekonomske analize, Odjel za makroekonomske analize, ***Županije – velike gospodarske razlike na malom prostoru***,June,2016.https://www.hgk.hr/documents/upanijevelikegospodarskerazlikenamalomprostoru5757722c520e65.pdf (accessed 17.04.2018.)

Menrad, K.(2003): ***Market and marketing of functional food in Europe***, Journal of Food Engineering, 56, pp. 181–188.

Niva, M.(2007): ***All foods affect health: Understandings of functional foods and healthy eating among health-oriented Finns***, Appetite, 48, pp. 384–393.

Verbeke, W; Scholdererb, J; Lähteenmäkib, L. (2009): ***Consumer appeal of nutrition and health claims in three existing product concepts***, Appetite, Volume 52, Issue 3, June 2009, Pages 684–692

van Kleef, E;. van Trijp, H.C.M.; Luning, P.(2005): ***Functional foods: health claim-food product compatibility and the impact of health claim framing on consumer evaluation***, Appetite, 44, pp. 299–308.

Zavišić, Ž. (2013):***The impact of functional food trend on consumer behaviour in Croatia***, First International Scientific and Professional conference „Fedor Rocco“, Book of Proceedings, Zagreb, pp. 98-113

Berislav Žmuk, PhD
Faculty of Economics and Business, University of Zagreb
Trg J. F. Kennedyja 6, HR-10000 Zagreb, Croatia
Phone: +385 1 238 3363 Fax: +385 1 233 5633
E-mail address:bzmuk@efzg.hr

DO PICTURES HAVE AN IMPACT ON WEB SURVEY RESPONSE RATES IN EASTERN CROATIAN ENTERPRISES?

UTJEČU LI SLIKE NA STOPE ODGOVORA U WEB ANKETNIM ISTRAŽIVANJIMA U PODUZEĆIMA IZ ISTOČNE HRVATSKE?

ABSTRACT

In order to collect certain information and data from a large number ofenterprises quite fast, a web survey seems to be the most appropriate tool. However, due to different reasons, response rates in web surveys are decreasing. In order to avoid insufficient response rates and problems arising from them, researchers have to make additional efforts to increase response rates in business web surveys. Those additional efforts can be rather expensive and time consuming. The aim of the paper is to inspect whether the use of different pictures could have an impact on response rates in web business surveysto be conducted using enterprises from Eastern Croatia as a sample. In order to observe the abovenamed issue, the web survey about the use of statistical methods in limited liability enterprises from five Eastern Croatian counties was conducted.Three different questionnaire versionswere developed: without, with "positive" and with "negative" pictures. The research results have shown that out of 3,861 Eastern Croatian enterprises that were contactedonly 125 or 3.2% enterprises opened and started providing answers to the survey questions. However, out of those 125 enterprises 68 or 54.4% enterprises completed the web questionnaire resulting in the overall response rate of 1.8%.If response rates are analysed with reference to pictures, it can be concluded that presence or absence of pictures does not have astatistically significant impact on the response rates. However, this conclusion was made on a rather small sample of enterprises. Therefore, such research should be repeated using a bigger sample and questionnaires including more pictures. What should also be investigated is the impact of different pictures on responses.

Key words: *Eastern Croatia, Enterprise, Picture, Response rate, Web survey.*

SAŽETAK

Kada je potrebno brzo prikupiti određene informacije i podatke od velikog broja poduzeća, web ankete se nameću kao najprikladnije rješenje. Ipak, zbog različitih razloga, stope odgovora u web anketnim istraživanjima su u opadanju. Kako bi se izbjegle niske stope odgovora i problemi koji nastaju zbog toga, istraživači moraju uložiti dodatne napore kako bi stope odgovora u web anketnim istraživanja povećali. Ti dodatni napori mogu biti poprilično skupi i zahtijevati puno uloženog vremena. Cilj rada je ispitati mogu li različite slike imati utjecaj na stope odgovora u web poslovnim anketnim istraživanjima, a koja bi se provodila uzorkovanjem poduzeća iz Istočne Hrvatske. Kako bi se navedeno ispitalo provedena je web anketa o primjeni statističkih metoda u poduzećima koja prema pravnom obliku pripadaju društvima kapitala te koja imaju sjedište u jednoj od pet županija koje čine područje Istočne Hrvatske. Za potrebe istraživanja razvijena su tri različita anketna upitnika: bez slika, s „pozitivnim" slikama te s „negativnim" slikama. Rezultati istraživanja su pokazali da od ukupno 3.861 kontaktiranih poduzeća iz Istočne Hrvatske njih samo 125 odnosno 3,2% je otvorilo web anketni upitnik i krenulo s davanjem odgovora. Međutim, od tih 125 poduzeća,

njih 68 odnosno 54,4% je u potpunosti ispunilo anketni upitnik. Na taj način ostvarena je stopa odgovora od 1.8%. Provedena statistička analiza je pokazala da razlika u stopi odgovora između anketnih upitnika sa i bez slika nije statistička značajna. Shodno tome, moglo bi se zaključiti da prisutnost slika ne utječe na povećanje stope odgovora. Ipak, treba uzeti u obzir činjenicu da je istraživanje provedeno na relativno malom uzorku poduzeća te da je u anketnim upitnicima korišten malen broj slika. U budućim istraživanjima potrebno je ispitati i utjecaj različitih slika na izbor odgovora ispitanika.

Ključne riječi: *Istočna Hrvatska, Poduzeće, Slika, Stopa odgovora na anketu, Web anketa.*

1. Introduction

Having certain information and data at the most appropriate time plays a crucial role in the modern economy. In most cases "the most appropriate time" refers to "very soon" or, even, "right now". Only if important information and data are available at an appropriate moment, the governmental economy strategists and enterprises can respond to certainissues in the market.By collecting information and data from enterprises, government institutions can discern what bothers enterprises, where their problems lie and what enterprises suggest in order to improve the existing situation. Accordingly, new or improved national strategies can be developed to make doing business easier and better. All that should be undertaken in order to improve the national economy results and to increase the general well-beingof the nation. On the other hand, enterprises need information and data to determine their position in comparison to their competition, to detect problems in their business processes and to make improvements.

One of the means of getting information and data about enterprises is using administrative sources. Administrative sources are great because enterprises are obligatory to provide requestedinformation and data (Zaletel, Seljak, 2011). If they do not give required information and data, enterprises are faced with serious, in most cases, monetary penalties. However, there are two main problems arising from the use ofadministrative sources. The first problemrefers to the fact that the information and data entered into a database are often obsolete. For example, enterprises need to send their financial statements for the previous year by the end of June of the current year. In addition to the problem of the obsolete information and data, there is the problem of a limited range of information and data that are collected.Administrative sources often useadministration forms which are prescribed by certain institutions and they are not easily changed and modernised. Consequently, certaininformationwhich has,in the meantime, become importantcannot be collected and inspected.

Instead of administrative sources, data and information collection can be conducted through occasional or periodical surveys as well. Due to information and communication technologyimprovementsand an increase of the population's computer and Internet skills(Eurostat, 2017),the use of web surveys is increasing (Manzo, Burke, 2012). A web survey, as a data collection method, is popular among researchers and respondents because it is a computer- and self-administered survey data collection method (Groves et al., 2004, Wang, 2010). From the researchers' perspective, web surveys are preferred to other data collection methods due to their low costs and fast responses. In the case of web surveys, respondents can, without any pressure from an interviewer, choose to participate or not to participate in the web survey, choose the most appropriate time and place to participate in the web surveyas well as the device (desktop personal computer, laptop, tablet, smartphone) which they will use to participate in the web survey.

Web surveys seem to be one of the best tools for reliable and fast data collection. Unfortunately, as a consequence of an increased web surveys use, response rates in web surveys have a negative trend (Hohwü et al., 2013). Potential respondents are overwhelmed with different inquiries for participation in web surveys. Consequently, they reject to participate in web surveys no matter how important a survey topic may be.Low response rates can lead to weak target population representativeness and to bias in estimates. So, the survey results can be of low quality.

In order to improve response rates, researchers can improve their invitation letters and the questionnaire design. They can even send incentives, in the form of gifts or money, to potential respondents. However, most web survey improvements require a lot of time and resources. In those cases the main advantages of web surveys, i.e. speed and low cost, vanish. Because of that it is crucial to identify improvements of web surveys which would be cheap and not time-consuming but which would have an impact on the increase of response rates. One of the methods of improving web surveys is including pictures in the web questionnaire.

In the theoretical sense, appropriate pictures, which are carefully selected, could increase the interest of respondents and even help them to understand questionsbetter (Couper, Tourangeau, Kenyon, 2004). Couper, Tourangeau and Kenyon (2004) and Toepoel and Couper (2010) investigated the impact of pictures in web surveys with general population as a target, whereas Žmuk (2017) observed the impact of pictures on response rates in the case of business web surveys. Žmuk (2017) conducted research on the sample of Croatian enterprises and the research results have shown that pictures do not have a statistically significant impact on response rates. This conclusion appears to be true when all Croatian enterprises were observed, i.e. when their characteristics such as the size (small, medium, large), the main activity (industrial, trade, services, other), the legal form (joint stock enterprises, limited liability enterprises, simple limited liability enterprises) and the location of their headquarters (Continental Croatia, Adriatic Croatia)were taken into account. However, when the questionnaire length, as another questionnaire design characteristic, is also included in the analysis it has been shown that in some cases different pictures do have a statistically significant impact on the response rate (Žmuk, 2018).

The aim of this paper is to investigate whether pictures, placed in a web questionnaire, could have an impact on response rates in the case of business web surveys conducted in enterprises from Eastern Croatia. Accordingly, the research hypothesis of the paper is that pictures do have a statistically significant impact on response rates in business web surveys when they are conducted on the sample ofEastern Croatian enterprises.

The structure of the paper is the following. After the brief introduction, the second section provides information about used data and methods. In the third section, the analysis of response rates is conducted and discussed. The final, fourth section concludes the paper.

2. Data and methods

In order to inspect the impact of pictures on business web survey response rates, a business web survey among Eastern Croatian enterprises was conducted. Eastern Croatian enterprises include enterprises that have their headquarters in one of the following counties: County of Osijek-Baranja, County of Požega-Slavonia, County of SlavonskiBrod-Posavina, County of Virovitica-Podravina, and County of Vukovar-Sirmium (Blagojević, 2008). The list of enterprises was taken from the Croatian Company Directory database (Croatian Chamber of Economy, 2018). Onlylimited liability enterprises were used in the analysis (Official Gazette, 2011). The survey was conducted in the period from October to December 2016.

Enterprises were separated into three groups at random. Each of those groupsreceived an invitation to participate in the web survey but with a different questionnaire version. So, three different web questionnaire versions were developed. In each questionnaire versions the same questions about the statistical methods use in enterprises were given. The only differences among the questionnaire versions refer to the use of pictures.

The first questionnaire version did not include any pictures at all. The second questionnaire version included “negative” pictures. “Negative” pictures suggest something negative,such asthe use of only basic statistical methods or a line that shows a downward trend. On the other hand, the third questionnaire version had “positive” pictures. “Positive” pictures imply something positive such asa desk with a lot of statistical books or a line which shows an upward trend. In order to keep potential technical difficulties as low as possible, only five “negative” and five “positive” pictures were included in the questionnaire versions with pictures.

First, the progress of survey responses in each phase of the survey is observed. In the following step, response rates are inspected by taking into account completed and partially completed questionnaires. The response rates are going to be observedtaking into consideration the different questionnaire versions and the county enterprises originate from. Finally, appropriate statistical tests are used to examine whether there is a statistically significant difference in response rates among different questionnaire versions.

3. Analysis and discussion

3.1. Survey response progress

According to the Croatian Company Directory database (Croatian Chamber of Economy, 2018) there were 3,861 enterprises that had their headquarters located in one of the five counties from Eastern Croatia in October 2016.It was decided that all those enterprises would be contacted by e-mail and invited to participate in the business web survey. The three different questionnaire versions were randomly distributed among enterprises. Consequently, there isa different number of enterprises with the different questionnaire versions. Those differences are present if enterprises are observed based onthe county they originate from. The distribution of contacted enterprises is shown in Table 1.

Table 1 *Number of contacted enterprises based on the questionnaire version and the county enterprises originate from*

Questionnaire version	County of					Total
	Slavonski Brod-Posavina	Osijek-Baranja	Požega-Slavonia	Virovitica-Podravina	Vukovar-Sirmium	
Without pictures	273	425	138	185	255	1,276
With “negative” pictures	273	414	141	180	304	1,312
With “positive” pictures	258	411	138	197	269	1,273
Total	804	1,250	417	562	828	3,861

Source: Authors’ survey.

Table 2 shows the distribution of responses after the initial invitation for participation in the web survey. According to the results, only 14 enterprises completed the questionnaire. Most enterprises which completed the questionnaire, i.e. six of them, come from the County of Osijek-Baranja, whereas no questionnaires were completed in the County of Požega-Slavonia. At this stage, 34 enterprises opted out from the web survey whereas two enterprises completed the questionnaire only partially.

Table 2 *Distribution of enterprises’ answers based on the county enterprises originate from after the initial invitation for participation in the web survey*

Answers	County of					Total
	SlavonskiBrod-Posavina	Osijek-Baranja	Požega-Slavonia	Virovitica-Podravina	Vukovar-Sirmium	
Partially completed questionnaires	0	1	1	0	0	2
Opted out enterprises	4	7	5	5	13	34
Completed questionnaires	2	6	0	4	2	14
Total	6	14	6	9	15	50

Source: Authors’ survey.

The first reminder was sent to enterprises after one month, in November 2016. After the first reminder, 30 additional enterprises completed the questionnaire. As expected, because this county has the highest overall number of enterprises, again the highest number of enterprises that completed the questionnaire was from the County of Osijek-Baranja, whereas this time no enterprises from the County of Virovitica-Podravina completed it. At this stage 46 enterprises opted out from the web survey. Table 3 shows detailed response results after sending the first reminder.

Table 3 *Distribution of enterprises' answers based onthe county enterprises originate from after sending the first reminder*

Answers	County of					Total
	SlavonskiBrod -Posavina	Osijek-Baranja	Požega-Slavonia	Virovitica-Podravina	Vukovar-Sirmium	
Partially completed questionnaires	0	0	1	0	0	1
Opted out enterprises	11	14	4	8	9	46
Completed questionnaires	5	14	5	0	6	30
Total	16	28	10	8	15	77

Source: Authors' survey.

Response results after sending the second reminder in December 2016 are shown in Table 4.

Table 4 *Distribution of enterprises' answers based on the county enterprises originate from after sending the second reminder*

Answers	County of					Total
	SlavonskiBrod-Posavina	Osijek-Baranja	Požega-Slavonia	Virovitica-Podravina	Vukovar-Sirmium	
Partially completed questionnaires	12	13	5	11	13	54
Opted out enterprises	17	29	3	16	12	77
Empty questionnaire	689	1,078	362	472	740	3,341
Undelivered survey invitations	57	81	30	43	27	238
Completed questionnaires	7	7	1	3	6	24
Total	782	1,208	401	545	798	3,734

Source: Authors' survey.

According to Table 4, after the second reminder, 24 additional enterprises completed the questionnaire. Unfortunately, it can be noted that 238 enterprises could not be contacted due to various technical issues such as a wrong e-mail address, full inbox, spam filter rejection and similar. At this stage, 54 enterprises partially completed questionnaires, whereas 77 enterprises opted out from the web survey. In other words, overall 3,341 enterprises did not take any action in relation to the questionnaire.

Table 5 *Final distribution of enterprises' answers based on the county enterprises originate from*

Answers	County of					Total
	SlavonskiBrod-Posavina	Osijek-Baranja	Požega-Slavonia	Virovitica-Podravina	Vukovar-Sirmium	
Partially completed questionnaires	12	14	7	11	13	57
Opted out enterprises	32	50	12	29	34	157
Empty questionnaire	689	1,078	362	472	740	3,341
Undelivered survey invitations	57	81	30	43	27	238
Completed questionnaires	14	27	6	7	14	68
Total	804	1,250	417	562	828	3,861

Source: Authors' survey.

Table 5 shows overall results after sending the initial invitation and two reminders. According to Table 5, 68 enterprises completed the questionnaire, whereas 57 enterprises partially completed the questionnaire. The enterprises from the County of Osijek-Baranja have the most completed and partially completed questionnaires. Overall 157 enterprises opted out from the web survey. That is more than the number of completed and partially completed questionnaires combined.

3.2. Survey response rates analysis

In this section,response rates will be inspected. However, first the distribution of the number of completed questionnaires and partially completed questionnaires will be observed. This distribution is provided in Table 6.

Table 6 *Distribution of completed and partially completed questionnaires based on the questionnaire version and the county enterprises originate from*

Questionnaire version	County of					Total
	SlavonskiBrod -Posavina	Osijek-Baranja	Požega-Slavonia	Virovitica-Podravina	Vukovar-Sirmium	
Completed questionnaire						
Without pictures	4	8	3	2	6	23
With “negative” pictures	6	5	2	3	6	22
With “positive” pictures	4	14	1	2	2	23
Total	14	27	6	7	14	68
Partially completed questionnaires						
Without pictures	4	5	2	2	6	19
With “negative” pictures	4	5	3	3	3	18
With “positive” pictures	4	4	2	6	4	20
Total	12	14	7	11	13	57
Completed questionnaire and Partially completed questionnaires						
Without pictures	8	13	5	4	12	42
With “negative” pictures	10	10	5	6	9	40
With “positive” pictures	8	18	3	8	6	43
Total	26	41	13	18	27	125

Source: Authors' survey.

The number of responses is shown for each county and for each questionnaire version separately in Table 6.The response rates to different questionnaire versions are quite similar, whereas the number of completed and partially completed questionnaires is rather different among the observed counties. However, it has to be emphasized that the number of responses is quite small for all the three questionnaire versions.

The response rates calculated by taking into account only completed questionnaires, only partially completed questionnaires and completed and partially completed questionnaires combined are given in Table 7.

Table 7 *Response rates of completed and partially completed questionnaires based on the questionnaire version and the county enterprises originate from*

Questionnaire version	County of					Total
	SlavonskiBrod -Posavina	Osijek-Baranja	Požega-Slavonia	Virovitica-Podravina	Vukovar-Sirmium	
Completed questionnaire						
Without pictures	1.47	1.88	2.17	1.08	2.35	1.80
With “negative” pictures	2.20	1.21	1.42	1.67	1.97	1.68
With “positive” pictures	1.55	3.41	0.72	1.02	0.74	1.81
Total	1.74	2.16	1.44	1.25	1.69	1.76
Partially completed questionnaires						
Without pictures	1.47	1.18	1.45	1.08	2.35	1.49
With “negative” pictures	1.47	1.21	2.13	1.67	0.99	1.37
With “positive” pictures	1.55	0.97	1.45	3.05	1.49	1.57
Total	1.49	1.12	1.68	1.96	1.57	1.48
Completed questionnaire and Partially completed questionnaires						
Without pictures	2.93	3.06	3.62	2.16	4.71	3.29
With “negative” pictures	3.66	2.42	3.55	3.33	2.96	3.05
With “positive” pictures	3.10	4.38	2.17	4.06	2.23	3.38
Total	3.23	3.28	3.12	3.20	3.26	3.24

Source: Author.

According to Table 7, when only completed questionnaires are observed, the highest response rate was recorded among enterprises from the County of Osijek-Baranja (2.16%), whereas the lowest response rate was observed among enterprises from the County of Virovitica-Podravina (1.25%). However, when only partially completed questionnaires are observed then the situation is reversed. Namely, in that case the highest response rateis registered among enterprises from the County of Virovitica-Podravina (1.96%) and the lowest response rate among enterprises from the County of Osijek-Baranja (1.12%). Consequently, when completed and partially completed questionnaires are observed, the response ratesin the given counties are quite similar.

If the response rates to different questionnaire versions are observed, it can be concluded that the highest response rate is in the case of the questionnaire version with “positive” pictures (3.38%), whereas the lowest response rate is in the case of the questionnaire version with “negative” pictures (3.05%). In order to inspect whether the differences in responses rates among different questionnaire versions are statistically significant or not the chi-square test was conducted.

Table 8 *Chi-square test results for equality of response rates among different questionnaire versions, completed questionnaires only*

Region / County of	Without pictures	With “negative” pictures	With “positive” pictures	Chi-square	df	p-value
Eastern Croatia	23	22	23	0.08	2	0.9599
SlavonskiBrod-Posavina	4	6	4	0.51	2	0.7753
Osijek-Baranja	8	5	14	4.95	2	0.0841
Požega-Slavonia	3	2	1	1.02	2	0.5997
Virovitica-Podravina	2	3	2	0.39	2	0.8248
Vukovar-Sirmium	6	6	2	2.27	2	0.3212

Source: Author.

Table 8 shows the chi-square test results for equality of proportions, i.e. response rates, among different questionnaire versions, whenonly completed questionnaires are taken into account. According to the results, if all enterprises from Eastern Croatia together are observed, it can be concluded that, at all commonly used significance levels, there is no statistically significant difference in response rates among different questionnaire versions. Furthermore, it has been shown that, at the significance level of 5%, there is no statistically significant difference in response rates among different questionnaire versions inall the five counties.

Table 9 *Chi-square test results for equality of response rates among different questionnaire versions, completed and partially completed questionnaires*

Region / County of	Without pictures	With “negative” pictures	With “positive” pictures	Chi-square	df	p-value
Eastern Croatia	42	40	43	0.24	2	0.8864
SlavonskiBrod-Posavina	8	10	8	0.26	2	0.8800
Osijek-Baranja	13	10	18	2.61	2	0.2715
Požega-Slavonia	5	5	3	0.61	2	0.7373
Virovitica-Podravina	4	6	8	1.12	2	0.5701
Vukovar-Sirmium	12	9	6	2.68	2	0.2618

Source: Author.

In the following analysis, completed and partially completed questionnaires are observed together and the difference in response rates amongdifferent questionnaire versions in such a situation is examined. In Table 9, the results of conducted correspondingchi-square tests are shown. Again it has been shown that, at the significance level of 5%, there is no statistically significant difference in response rates among different questionnaire versions inall the five counties and at the level of Eastern Croatia.

4. Conclusions

Due to the importance of fast collection of information and data, business web surveysare gaining importance. Unfortunately, generally speaking, response rates in web survey are decreasing. In order to increase them, researchers can apply different improvements that could be very expensive and time consuming. Because of that it is crucial to find improvements which are easy and fast to implement in the survey process and which would result in a response rate increase.

The paper inspects the impact of pictures in the questionnaire on response rates in a business web survey. In order to do that, three different questionnaire versions were developed. The only difference among the questionnaire versions refers to pictures: the first questionnaire version does not have them, the second questionnaire version has "negative" pictures, and the third questionnaire version includes "positive" pictures. Those three questionnaire versions were distributed to enterprises from Eastern Croatia at random.

At the end of the survey, overall 68 enterprises have completed the questionnaire, whereas 57 enterprises have partially completed the questionnaire. It has been inspected whether there is a statistically significant difference in response rates among the different questionnaire versions. The statistical tests were conducted by observing all enterprises together and by observing enterprises based on their location in a certain county. Furthermore, the analysis was initially conducted only on completed questionnaires. Later, completed and partially completed questionnaires were observed together to calculate response rates.

All conducted statistical tests have shown that there is no statistically significant difference in responses rates among the different questionnaire versions. Consequently, it can be concluded that pictures do not have an impact on response rates in business web surveys. However, it has to be emphasized that relatively few responses were collected. If more responses had been collected, maybe some differences would have appeared. Future research should also include an analysis of the impact of pictures on responses.

Acknowledgement
This work has been in part supported by Croatian Science Foundation under the project STatistical Modelling for REspoNse to Crisis and Economic GrowTH in WeStern Balkan Countries – STRENGTHS (project no. IP-2013-9402).

REFERENCES

Blagojević, A. (2008): ***Zemljopisno, povijesno, upravno i pravno određenje istočne Hrvatske – korijeni suvremenog regionalizma***, Zbornik Pravnog fakulteta Sveučilišta u Rijeci,Vol. 29, No. 2, pp. 1149-1180.

Couper, M. P., Tourangeau, R., Kenyon, K. (2004):***Picture This!: Exploring Visual Effects in Web Surveys***, Public Opinion Quarterly, Vol. 68, No. 2, pp. 255-266.

Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., Tourangeau, R. (2004): ***Survey Methodology***, John Wiley & Sons, Hoboken

Hohwü, L. et al. (2013): ***Web-Based Versus Traditional Paper Questionnaires: A Mixed-Mode Survey With a Nordic Perspective***, Journal of Medical Internet Research, Vol. 15, No. 8, e173.

Manzo, A.N., Burke, J.M. (2012):***Increasing Response Rate in Web-Based/Internet Surveys***,in: Gideon, L., ed.: Handbook of Survey Methodology for the Social Sciences. Springer, New York, pp. 327-343

Toepoel, V., Couper, M. P. (2010):***Can Verbal Instructions Counteract Visual Context Effects in Web Surveys?***, Public Opinion Quarterly, Vol. 75, No. 1, pp. 1-18.

Wang, T. (2010):***Web Surveys***, Wiley International Encyclopedia of Marketing, Part 2

Žmuk, B. (2017):***Impact of pictures on response rates in business web surveys: Croatian case***, in: 14th International Symposium on Operational Research SOR'17, Proceedings, Slovenian Society Informatika, Section for Operational Research, September 27-29, 2017, pp. 65-70

Žmuk, B. (2018): ***Impact of Different Questionnaire Design Characteristics on Survey Response Rates: Evidence from Croatian Business Web Survey***, Statistika, Vol. 98, No. 1, (to be published).

Croatian Chamber of Economy (2018):***Croatian Company Directory***,http://www1.biznet.hr/HgkWeb/do/extlogon, (accessed 18January 2018)

Eurostat (2017): ***Digital economy and society statistics - households and individuals***, http://ec.europa.eu/eurostat/statistics-explained/index.php/Digital_economy_and_society_statistics_-_households_and_individuals, (accessed 19 January 2018)

Official Gazette (2011): ***Companies act***,No. 152, http://narodne-novine.nn.hr/clanci/sluzbeni/2011_12_152_3144.html, (accessed 18January 2018)

Zaletel, M., Seljak, R. (2011): ***The impact of the quality of administrative sources on different phases of the statistical process***, http://www.stat.si/dokument/5295, (accessed 19 January 2018)

3

Ljudski kapital u funkciji društveno-ekonomskog razvoja regije

Human capital in a function of the socio-economic development of the region

Assistant professor Željko Bogdan, PhD
Faculty of Economics and Business Zagreb, Croatia
Trg J.F. Kennedya 6, Zagreb
E-mail address: zbogdan@efzg.hr

Krešimir Ivanda, mag.oec.
Faculty of Economics and Business Zagreb, Croatia
Trg J.F. Kennedya 6, Zagreb
E-mail address: kivanda@efzg.hr

EMIGRATION AND LABOUR SUPPLY: THE EFFECT ON WAGES IN SOURCE COUNTRY

EMIGRACIJA I PONUDA RADNE SNAGE: UČINCI NA PLAĆE U ZEMLJAMA ISHODIŠTA

ABSTRACT

Majority of the EU-13 countries have witnessed substantial emigration flows in the years following EU accession or the end of the free movement (workers) restrictions. Croatia and especially its eastern part has and still is witnessing a sizable emigration. Demographic literature identifies most of the emigrants to be in working age and significant amount of them leaving with children and their families, thus substantially affecting labour supply. The main purpose of this paper is to identify and explain profound effects of changes in labour supply due to high emigration rates on source economies, focusing on wages. There is insufficient number of empirical findings on wage effect in source countries to give general conclusions but majority of them show significant positive correlation between emigration and wage level in source country. Nevertheless, that positive correlation is reported to be a short-term effect. In case of severe and prolonged emigration, especially that of high skilled workers even the short term positive effect may well miss. In the analysis of emigration's effect on wages, it is crucial to distinguish the effect of education, skill, productivity or other variables that could potentially lead to wage rise in source country. Overall effect of emigration on economic growth and human capital formation is still not unambiguous and needs further empirical research, particularly in the countries of interest – EU13.

Key words: *emigration, labour supply, wages, source country.*

SAŽETAK

Većina EU-13 zemalja su bile zahvaćene značajn imemigracijskim valovima u godinama nakon pristupanja EU ili završetkom razdoblja restrikcija na slobodno kretanje stanovništva (radnika). Hrvatska i posebno istočni dio zemlje zahvatio je, i još uvijek traje, značaja nemigrantski val. Demografska istraživanja pokazuju kako su većina emigranata osobe u radnoj dobi i značajan dio njih odlazi s djecom i svojim obiteljima što ima snažne implikacije na ponudu radne snage. Glavni cilj rada jest identificirati i objasniti složene efekte promjena u ponudi radne snage koje su rezultat emigracije, a fokusirajući se na plaće. Zasada ne postoji dovoljan broj empirijskih istraživanja učinka na plaće u zemljama ishodišta na osnovu kojih bi se mogli donijeti opći zaključci, ali većina njih pokazuje značajnu pozitivnu korelaciju između emigracije i razine plaća u zemljama ishodišta. Ipak, pozitivna korelacija se pokazala kratkotrajnog učinka. U slučaju snažne ili dugotrajne emigracije, pogotovo stručnjaka, čak i navedeni pozitivni učinak može izostati. U analizi utjecaja emigracije na plaće presudno je razlikovati učinke obrazovanja, iskustva, produktivnosti ili ostalih *varijabli koje mogu potencijalno voditi ka većoj razini plaća u zemlji ishodišta emigracije. Sveukupni učinak emigracije na ekonomski rast i stvaranje ljudskog kapitala nije jednoznačan te je potrebno više empirijskih saznanja, što se posebno odnosi na zemlje od interesa – EU 13.*

Ključne riječi: *emigracija, ponuda radne snage, plaće, zemlja ishodišta.*

1. Introduction

After every European Union enlargement since (and including the one in) 2004, there has been an increased amount of labour mobility. There have been two main migration patterns: East to West and South to North migration. Each of them has its own unique characteristics and push-pull factors but common driving factor is the same: labour market. Labour markets in the East/South Europe characterise low workers mobility, high youth unemployment, low wages, high long-term unemployment, rare and slow occupational retraining, subpar education and labour demand balance. Those characteristics of labour markets produce several potent push factors for emigration, which resulted in real-world economic migration in the years following EU accession or the end of the free movement (workers) restrictions.In addition, increase in emigration rates was seen between 2009 and 2012. Since 2014, emigration rates declined, indicating economic recovery. Yet, several EU-13 Member States – Slovakia,Bulgaria, Latvia, Lithuania, Croatia, Poland and Romania – still register overall negativenet migration(Fries-Tersch, Tugran, & Bradley, 2017). As for new EU countries an important consideration is to what extent post-enlargement emigration represents a permanent loss of labour and human capital, andto what extent it might signify the beginning of an era of, "brain gain and circulation" (Kahanec, 2013).Besides, there is an additional major migration pattern, but its incentives are completely different from the abovementioned: North-to-South retirement migration. That pattern of migration has increasedconsiderably in the past decades, motivated by among others ahigher quality of life and lower costs of living(Castro-Martin & Cortina, 2015).
There is a solid amount of thorough and up-to-date research on effects of migration on receiving countries, especially on topics like wages, productivity and social inclusion. Nevertheless, the same is not the case with research based on source country effects (literature uses terms *source, sending* or *origin* country).The research on the economic impacts of migration in destination countries is multiple in count and variety of issues than research on economic impacts in source countries. Similarly, public concern seemsto be focused far more on the economic consequences of immigration than of emigration, although every immigrant is also an emigrant(Elsner, 2015).Therefore, the aim of this paper is to present most relevant research on wage effects on source country focusing on "new" EU member states. In addition, as Croatia is one of the countries with high emigration rate but with scarce, if any, research on economic effects of emigration, we will tackle with its specific issues and provide guidelines for further research on the case of Croatia.
The paper has following structure: second part deals with theoretical framework which connects emigration, labour supply in source country and wages, third part displays existing literature findings, fourth data and limitations in empirical analyses and fifth part covers expected results for Croatia. Final part completes our findings.

2. Theoretical framework: labour supply and wages

The emigration lowers the labour supply in source countries. It has been consistently testified in research dealing migration that migrant's age structure is far younger than general population. For instance, on the EU28 level, 74% of intra-EU migrants were in the working age 20-64 compared to national level of 60% (Fries-Tersch, Tugran, Rossi, & Bradley, 2018).

The basic labour market model often used in public debate implies that more the workers, lesser the wages and opposite. Yet, the relationship between labour supply and wages is more complex. While the basic logic behind labour supply and demand balance is correct, one has to expand the model and count in the effect of skills. If a group of workers have different skills, and these skills are complementary, then a high emigration rate of one group decreases the demand for the other group and consequently lowers their wages. Alternatively, if skills are comparable, then emigration can increase demand and raise wages forthis other group of workers(Elsner, 2015). This issue can be viewed as supply and demand balance of complement and substitute products.
In addition, there is an evidence of emigration leaving in general all non-migrant workers with lower wages. It happens with severe case of brain drain, thus significantly decreasing productivity in source country and lowering complete wage levels. That case has been seen in small sending countries with exceptionally high emigration rates like Haiti, Jamaica and Trinidad and Tobago(Elsner, 2015).Even though research focuses on labour supply shortage and its link with wage rise, it has been observed that abovementioned link often comprises other complementary effects. For instance, it has been shown that, also in "new" EU countries, labour supply shortages increase union bargaining position and further increase pressure on wage rises(Kaminska & Kahancova, 2011).

3. Emigration and its effects on sending country – literature review and empirical findings

Researchers that deal with emigration and its effects on wages in source countries are usually stunned by the lack of data, research and literature on the topic. Elsner (2013, 2015), Mishra (2014),Zaiceva (2014)all state lack of resources and coverage of this matter. Nevertheless, existing research provides valuable knowledge on how emigration affects wage levels in source countries. This section deals with existing literature and empirical findings.
Even if it may be that present-day labour mobility is unprecedented in terms of ease, speed, cost, safety and feasibility, the labour mobility or broadly spoken, economic migration, is a constant process in human history. With new methods of compiling datasets and more usage of existing historic datasets on migration, we can estimate historical emigration and its effects. For instance, O'Rourke and Williamson (1999) use historical dataset with data both for emigration rate and for wages in several European countries in period 1870-1910, during which many Europeans left for New World. Their analysis shows a clear positive correlation between emigration rates and wages in source countries(Elsner, 2015).
In estimating the wage effect Borjas (2003) proposes a skill-group approach. The approach groups the labour force based on gender, education and work experience – and compares emigration rates and real wages within each skill group before and after EU enlargement(Elsner, 2013). That model has been used since in majority of the empirical research on this topic. With our best effort, we found that Mishra (2007) was the first to econometrically model the emigration effect on individual wages. Since then, several researchers did the same for various countries or group of countries.Outcomes of those researches are for the purpose of simplicity shown in Table 1.

__Table 1__ Literature review – empirical findings

Authors	Time span	Countries[1]	Findings
Aydemir, Borjas (2007)	1960-2001	Mexico, Canada, USA	10% labor supply shift is associated with a 3%–4% opposite-signed change in wages. Significant country differences.
Elsner (2013)	2002-2006	Lithuania	High emigration increased average wages: concentrated among young workers, +6% over the period of 5 years, the wages of older workers were not affected.
Atoyan et. al. (2016)	1995-2012	CESEE	SEE and Baltic states witnessed strong upward pressure on wages, but also worsened productivity due to high emigration of skilled workers.
Kahanec& Zimmerman (2009)	2004-2007	New EU excl. Croatia	Aggregate data document decreasing unemployment, increasing number of vacancies, and employment growth, as well as increasing wages in the post-enlargement period
Mishra (2007)	1970-2000	Mexico	Strong and positive relationship between emigration and wages. The impact of emigration on wages has important implications for wage inequality. Elasticity of wages with respect to outflow of labor was 0.4%
Brucker et. al. (2009)	2004-2007	EU8 & EU2	Wages increase in the sending countries in the short-run, while the long-run impact of migration on wages is largely neutral.
Budnik (2008)	2002-2006	Poland	The estimated steady-state impact of an outflow of around 4.5% of workers from Poland between 2002 and 2006 on the wage rate was 1%.
Bouton, Paul, Tiongson (2011)	2000-2006	Moldova	On average, a 10 % increase in the emigration rate is associated with 3.2 % increase in wages. Significant differences across economic sectors.
Dustmann, Frattini, Rosso (2012)	1998-2007	Poland	Minor average wage increase. Workers with intermediate skill witnessed the highest increase whereas low-skilled workers had no increase or even slight wage decrease
Borjas (2008)	1970-2000	Puerto Rico	10 percent labor supply shift is associated with about a 2 to 4 percent opposite signed change in wages. Roughly the same values for emigration and immigration in Puerto Rico.
Kaczmarczyk, Mioduszewska, Żylicz (2010)	2004–2007	Poland	Mid-term effects of the outflow of workers – such as wage pressure – are not very pronounced. Although the data do support theoretical predictions, the overall effecton the macro-scale is small. Particular effects may be more pronounced in the local labor market or in specific sectors.

Source: own work

4. Data and limitations in empirical analyses

Covering migration data has always been a challenge and given the nature of the European Union free movement concept the statistics on migration are not representative as other demographic data. From the micro perspective, the intra-EU migration has become hassle-free, legal for all EU citizens

[1]Country group abbreviations:"New EU" or EU13 - Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia (EU8), Cyprus, Malta; Bulgaria and Romania (EU2), and Croatia
CEESEE:Estonia, Latvia, Lithuania, Slovenia, Hungary, Poland, Czech Republic, Slovakia, Romania, Bulgaria, Croatia, Albania

without age limitations and with minimum or no documentation, let alone work visas or permits. Source countries are more affected with data absence because destination countries have indirect methods to count new migrants such as social security number applications, healthcare system applications or various tax documentation. That said it makes it very challenging to measure the intra-EU migration and to ensure anin-depthresearch on effects of migration. However, it makes an attractive field to deal with. The EuropeanUnion with its 28 member states can be viewed as an outstanding research laboratory on legal andunrestricted transnational migration, but both researchand public debate on migration in Europe have primarily focused on internationalmigration from outside the EU, and less attention has been devoted to intra-European migration(Castro-Martin & Cortina, 2015).

As expected, the countries with severe case of emigration have been mostly covered in literature. The analysis ranges from descriptive statistics to econometric/statistic modelling. Sending countriestypicallydo not keep records of emigrants, which makes itdifficult to quantify the number of emigrants(Elsner, 2013).The limitations for conducting more and detailed research are straightforward: the lack of representative and more importantly detailed data on emigration structure. The data of interest that would most benefit the analysis would be the one on occupational, educational and skill (experience) characteristics of emigrants. Respectively, if the occupational and skill data is unknown or unrepresentative (often undervalued) in the countries with high emigration rates then the stayer's data is also skewed.

Nevertheless, existing empirical findings provide valuable understanding in complex emigration of labour force to wages relationship.

5. Expected results for Croatia

The problem of data availability and their quality is also present for Croatia. Even though its population and size are relatively small, in the last 100 years the country witnessed substantial emigration waves. Croatian official data since 1971 Census include share of population living abroad. Concern with that coverage is underestimating natural decrease and actual net emigration.

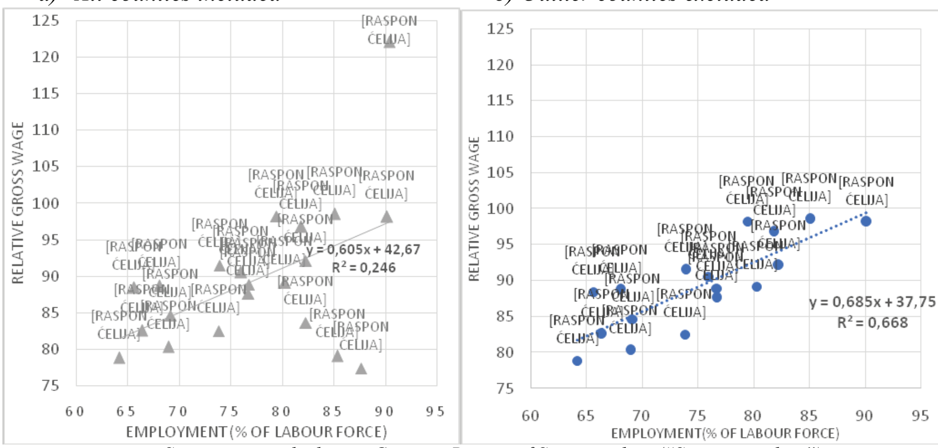
Migration patterns in Croatia include strong economic background typically expressed in relatively low employment rate and high unemployment rate which is particularly present in counties of Eastern Croatia. Those conditions acted as a basepush factor for intense emigration to EU states after Croatian accession to EU.

Empirical research found, for instance, in Poland is not possible in the case of Croatia due to lack/quality of the data. Therefore, one of the methods for estimating Croatian emigration is using immigration data from destination countries in EU(Akrap, Strmota, & Ivanda, 2017). Yet, those estimates don't provide information on emigration by county level.

Therefore, findings can be provided indirectly by tracking the ratio between employment as a share of labour supply and relative gross salary which is calculated as a ratio between average net salaries in Croatia, as shown in Figure 1. There is a clear positive relationship but also several outliers: Zagreb and Northern counties which have higher employment rate matching with low wage levels. Excluding those outlier counties the positive relationship becomes even clearer (Figure 1b).

Figure 1 *Correlation between employment as a share of labour supply and relative gross salary, Counties in Croatia in 2015*

a) All counties included *b) Outlier counties excluded*



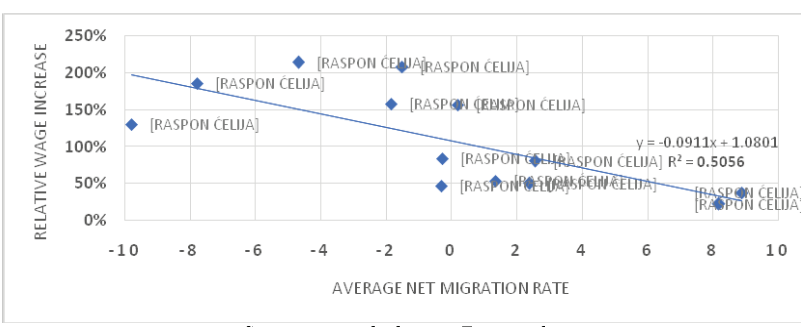
Source: own calculation, Croatian Bureau of Statistics data ("Statistics in line")

Even though both figures imply significant correlation but not causality, which can occur in both directions, it is possible to assume that in case of more intense emigration employers should increase salaries in order to keep or increase employment.

Also, using aggregate data[2] from Eurostat we can also display correlation between net migration and wage increase, as shown in Figure 2. Note that correlation is negative because we used net migration, not emigration. The results do not collide with other empirical findings - negative net migration resemblesthe surplus/increase in emigration.

Simplified: countries with negative net migration rates (presumed loss in labour supply) had the highest wage increase and vice versa.

Figure 2 *Average net migration and corresponding relative wage increase, EU13 countries 2004-2016*



Source: own calculations, Eurostat data

[2] Eurostat datasets used: *Wage and salaries, Population change - Demographic balance and crude rates at national level.*Wage increase is calculated as a relative to base year and net migration is average of yearly net migration rates. Usable only as a descriptive finding, not for explaining any causality.

6. Summary

The paper stresses that majority of the countries that joined EU since 2004 witnessed high emigration rates after removal of workers restrictions from older EU countries. The paper emphasises theoretical framework for evaluating effects of emigration on source countries and displays the most relevant studies done in the topic. Available research for European countries were published before Croatian accession to EU and therefore did not include it. Data deficiency and quality issues eliminate the possibility of conducting thorough research in the case of Croatia but preliminary results imply that emigration has not affected wage levels in Croatia significantly but may in near future. That leaves this topic valuable for further research.

REFERENCES

Akrap, A., Strmota, M., & Ivanda, K. (2017): ***Iseljavanje iz Hrvatske od početka 21. stoljeća: uzroci i posljedice*,**in: Hrvatska izvan domovine II, Proceedings, Drugi hrvatski iseljenički kongres, 1.-3. July 2016, pp. 543-551

Atoyan, R., Christiansen, L., Dizioli, A., Ebeke, C., Ilahi, N., Ilyina, A., . . . Zakharova, D. (2016):***Emigration and Its Economic Impact on Eastern Europe***, in:IMF Staff Discussion NoteNo.16/7, pp. 1-48,

https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2016/12/31/Emigration-and-Its-Economic-Impact-on-Eastern-Europe-42896 (accessed 23March 2018)

Aydemir, A., & Borjas, G. (2007):***Cross-Country Variation in the Impact of International Migration: Canada, Mexico, and the United States*,**Journal of the European Economic Association, Vol. 5, No. 4, pp. 663 - 708.

Borjas, G. (2008):***Labor outflows and inflows in Puerto-Rico*,** Journal of Human Capital, Vol. 2, No. 1, pp. 32-68.

Bouton, L., Paul, S., & Tiongson, E. (2011): ***The Impact of Emigration on Source Country Wages: Evidence from the Republic of Moldova*,**Policy Research Working Paper 5764, The World Bank, Washington D.C.

Brucker, H., Baas, T., Beleva, I., Bertoli, S., Boeri, T., Damelang, A., . . . Iara, A. (2009):***Labour mobility within the EU in the context of enlargement and the functioning of the transitional arrangements***, European Integration Consortium, Nuremberg

Budnik, K. (2008): ***Search Equilibrium with Migration: the Case of Poland*,** National Bank of Poland Working Paper, No. 45, pp. 1 - 31.

Castro-Martin, T., & Cortina, C. (2015):***Demographic Issues of Intra-European Migration: Destinations, Family and Settlement***, European Journal of Population, Vol. 31, pp. 109-125.

Dustmann, C., Frattini, T., & Rosso, A. (2012):***The Effects of Emigration from Poland on Polish Wages***, CReAM Discussion Paper No. 29, Centre for Research and Analysis of Migration, London

Elsner, B. (2013):***Does emigration benefit the stayers? Evidence from EU enlargement***, Journal of Population Economics, Vol. 26, pp. 531-553.

Elsner, B. (2013):***Emigration and wages: The EU enlargement experiment***,Journal of international economics, pp. 154-163.

Elsner, B. (2015):***Does emigration increase the wages of non-emigrants in sending countries?***,in: IZA World of labor No. 208, https://wol.iza.org/articles/does-emigration-increase-wages-of-non-emigrants-in-sending-countries/long (accessed 21 March 2018)

Fries-Tersch, E., Tugran, T., & Bradley, H. (2017):***2016 Annual Report on intraEU Labour Mobility***, European Commision, Bruxelles

Fries-Tersch, E., Tugran, T., Rossi, L., & Bradley, H. (2018):***2017 annual report on intra-EU labour mobility***, European Commission, Bruxelles

Kaczmarczyk, P., Mioduszewska, M., & Żylicz, A. (2010): ***Impact of the Post-Accession Migration on the Polish Labor Market***, in: Kahanec, M. and Zimmermann, K. F.,ed: EU Labor Markets After Post-Enlargement Migration, Springer-Verlag, Berlin Heidelberg,pp. 219-255.

Kahanec, M. (2013): ***Labor mobility in an enlarged European Union***, in: Constant, A. and Zimmermann, K., ed:International Handbook on the Economics of Migration, Edward Elgar Publishing, pp. 137-152.

Kahanec, M., & Zimmermann, K. F. (2009):***Migration in an enlarged EU: A challenging solution?***Economic papers No. 363, European Commission: Directorate-General for Economic and Financial Affairs, Bruxelles

Kaminska, M., & Kahancova, M. (2011): ***Emigration and Labour Shortages: an Opportunity for Trade Unions in New Member States?***,European Journal of Industrial Relations, pp. 189 - 203.

Mishra, P. (2007):***Emigration and wages in source countries: Evidence from Mexico***,Journal of Development Economics,Vol. 82, pp. 180-199.

Zaiceva, A. (2014):***Post-enlargement emigration and new EU members' labor markets***, in:IZA World of Labor No. 40, https://wol.iza.org/articles/post-enlargement-emigration-and-new-eu-members-labor-markets (accessed 17 March 2018)

Aldin Brajić, PhD student
Donja Mahala br. 4., 74 480 Modriča
tel: +387 66 991 393
E-mail**:** brajicaldin@gmail.com

Samira Fazlić, PhD, Associate professor
University of Tuzla, Faculty of Economics
Univerzitetska 8, 75000 Tuzla
Tel/Fax: +387 35 320 820
E-mail: samira.dedic@untz.ba

Sabina Đonlagić Alibegović, PhD, Associate professor
University of Tuzla, Faculty of Economics
Univerzitetska 8, 75000 Tuzla
Tel/Fax: +387 35 320 820
E-mail:sabina.djonlagic@untz.ba

Dino Kakeš, PhD student
Uprava za indirektno oporezivanje BiH
tel: +387 61 998 905
E-mail: dino.kakes@uino.gov.ba

COMPARATIVE ANALYSIS OF PRIMARY HEALTH CARE SERVICES

KOMPARATIVNA ANALIZA KORISNIKA ZDRAVSTVENIH USLUGA PRIMARNE ZDRAVSTVENE ZAŠTITE

ABSTRACT

There is significant number of dimensions and attributes that could describe and define quality of health care services, which illustrates multidimensionality of its structure. Therefore, managing the quality of health services represents a constant challenge, focusing on measurement quality and user satisfaction. The aim of the paper is comparing expectations and perceptions of the health care service users as well as the gaps for different dimensions of health care quality. For that purpose, a SERVQUAL model has been used, adapted to the needs of the health care sector. Empirical research was carried out on the basis of collecting primary data, by using testing method, via highly structured questionnaire that contained a Likert 5-point scale. The data collection was performed on a stratified sample. A research included 300 respondents in the primary health care institutions. Finally, based on the results of the empirical research, we confirmed that the research hypothesis is the following statement: „There is a statistically significant difference between the average rating of expectations and the average rating of perceptions of health service users in the primary health care institutions".

Key words: *quality of services, health care service, SERVQUAL model, gap analysis, t-test*

SAŽETAK

Značajan broj dimenzija i atributa kojima se može opisati i definisati kvaliteta zdravstvene usluge ukazuje na multidimenzionalnost njene strukture. Upravo zbog toga, upravljanje kvalitetom zdravstvenih usluga predstavlja neprekidan izazov, u čijem je fokusu problem mjerenja kvalitete i *zadovoljstvo korisnika istom. Opšti cilj ovog rada jeste komparirati očekivanja i percepcije korisnika zdravstvenih usluga primarne zdravstvene zaštite, kao i gapove za različite dimenzije kvalitete istih. U tu svrhu korišten je SERVQUAL model, koji je prilagođen potrebama zdravstvenog sektora. Empirijsko istraživanje je realizovano na temelju prikupljanja primarnih podataka metodom ispitivanja, pri čemu je korišten visoko strukturirani anketni upitnik baziran na Likertovoj skali sa pet stepeni slaganja. Prikupljanje podataka je izvršeno na osnovu stratifikovanog uzorka. Zaključno istraživanje obuhvatilo je 300 ispitanika u Javnim ustanovama primarne zdravstvene zaštite. U konačnici je na osnovu rezultata provedenog empirijskog istraživanja potvrđena istraživačka hipoteza da: „Postoji statistički značajna razlika između prosječnih ocjena očekivanja i prosječnih ocjena percepcija korisnika zdravstvenih usluga u Javnim ustanovama primarne zdravstvene zaštite".*

Key words: *kvaliteta usluga, zdravstvene usluge, SERVQUAL model, gap analiza, t –test*

1. Introduction

The concept of quality health care services is constantly evolving and transforming depending on the interest in it and depending on the level of involvement of all participants (medical personnel, patients, financiers, legislators) in the area of quality management services. In recent decades, the health system in Bosnia and Herzegovina has shared the destiny of the overall economic system, which shows a tendency for stagnation, and as a result of negative indicators in all areas of the economy, the enormous budget deficit, age structure of the population, reduction of wages, pensions, etc. Reforms and changes in the health system would imply a significant improvement in the existing effectiveness and also in the existing effectiveness of healthcare service, however this requires the need for a new approach to managing and measuring quality across the entire health system and the need to apply modern methods and models of healthcare management.Thus, the health sector is becoming more and more preoccupied with quality and the crucial role has determination of the way users perceive the quality of health care. According to the ISQ International Principles for Quality in Healthcare, in order for the health service to be considered as a good quality, health services must be accessible, adequate, lasting, effective, cost-effective, safe and sustainable, and competent services full of understanding should be provided to them.The content of standards used to measure the quality of health services must be based on quality dimensions that are related to the aforementioned attributes to allow consistent measurement. Through the implementation of a quality management system in healthcare could be found a solution to these problems. However, in order to make major reforms, it is necessary to analyze the existing situation in the health sector and to identify the gaps in the quality of health services. The central research question is: *To what extent are present differences between the expectations and perceptions of the users of health services, or to what extent are present gaps for different dimensions of the quality?*

Namely, meeting the expectations of health service users is a very difficult task. In search of the choice and use of health services that will meet the health (existential) needs, the user behaves differently than when it comes to any other existential need. Satisfaction of the beneficiary of the health service lays one part in satisfaction with the quality of the provided service and in the second part it depends on the organization of the health system.

However, there are still no relevant data in BiH that could show the level of satisfaction of health service users because there is no adequate research on the quality of health care and patient satisfaction. It is necessary to identify the real situation when it comes to the needs of expectation, perception and satisfaction, so that health policy reforms starts to change in favour of health care users.

In addition, it should be stressed that countries in the region are also faced with this problem, therefore sharing of experience would greatly contribute to the improvement of the health sector and that research on this topic would be significant for the future reforms. Therefore, the focus of this paper is to analyze the dimensions of health care quality in public health care institutions with the aim of identifying the gaps between expectations and perceptions of health service users, and providing recommendations for improving healthcare operations, and identifying attributes of the quality of health care services that should be improve in order to achieve a greater degree of customer satisfaction and minimize the gaps in the quality of service.

2. A review of previous researches

The first indications about the quality in the field of health care date back to a distant past. Thus, a text from Babylon, dating from the year 2000 before the new era, contains guides for doctors, as well as punishments for doctors' incompetence. As the system of rewards and penalties changed, the interest of the society for ensuring the best possible health care became constant. Several pioneers have provided important insights into the quality of health care. The Nursing Movement, led by Florence Nightingale, deserves special attention when it comes to improving the quality of health care. Nightingale wrote in her notes about nursing that first request than needs to be carried out in the hospitals is that staff works in such a way that it does not cause any harm to the patient. Her reforms include improvements in the field of cleaning, sanitation and dietary nutrition, as well as the establishment of discipline and organization of hospital routine. Her simple, but humane approach significantly influenced mortality reduction (Taylor & Taylor, 1994, 46). It should be noted that Florence Nightingale was one of the first persons to introduce and implement quality in healthcare and she also helped in developing quality assurance programs. She was also one of the main founders of introducing information systems and statistical analysis in healthcare institutions. The result of her work showed that mortality rates differed significantly between hospitals, but result also stressed the need to introduce standardized practice in medical practice for the purpose of continuous improvement of healthcare operations.

Codman (1914, 99) focused on the outcomes of healthcare services and in his paper he analyzed risk factors that affect the quality of services such as: seriousness of the illness, patient behavioural disorders, and economic constraints of the patients who want to use healthcare. Over the next two decades, little interest has been devoted to improving the quality of health services, however it was in focus again from the 1940s till 1960s of the past century. The second growing trend from the 1960s was aimed towards stimulation of the public interest related to the rights to health care. The judicial system in that period had a particular impact on the interpretation and protection of medical personnel's rights and the determination of obligations in the provision of services, as well as on the submission of complaints relating to faults made by medical staff.

In the 1970, interests focused on rising costs of health services and increased concerns about professional standards testing.There were also laws that focused on costs and the Law on Health Care for Children and child-bearing woman. According to Goran (1979, 1-47), the aforementioned laws focused on the medical necessity of the service, the quality of professional standards and the economic cost constraints in relation to the quality of provided services. In the year 1980 and 1990, attention was focused on cost reduction and quality of studies. Amendments on the Law on social protection were brought into force. Knaus (1986, 6-14) applied Donabedian's structure, process and paradigm of outcome to intensive care units in order to evaluate patient mortality, while Wennberg (1985) studied variations in outcomes and costs for individual hospitals and systems of wide area. The United Committee for Accreditation of Healthcare Organizations (JCAHCO) in 1994 introduced a system of measuring indicators. The system has created a national health care database. Berwick (1996, 1-4) supported the use of permanent improvements in health care. In

1980, attention was also focused on the importance of quality of service and patient satisfaction. According to Mitry, Smith (1979, 7-14) and Moosbrugger (1987, 45) most of the research from that period focused on patient satisfaction, and a significant part of literature and research emerged from the focus on patient satisfaction. The period from the late 1980s to the early 1990s of the twentieth century shows an explosion of initiatives in the area of quality of health services. These activities have been led and today are led by various groups, including hospital associations, foundations, government agencies, accreditation bodies.

In the literature we come across a large number of papers and research of the quality concept and its application in different activities. However, quality in the health sector is still not sufficiently explored. In the paper as a basis for defining the research problem were used results of several research, and on its basis it was made systematization of theoretical concepts and results of previous researches.

In the paper entitled „Measuring the quality of primary health care services with servqual instruments“, authors Ozretić Došen, V. Škare and T. Škare (2010, 27-44) focused on showing the model that was used the most for measuring healthcare services SERVQUAL which is widely accepted for measuring quality of healthcare services. In the paper were presented results of the conducted research on the quality of health care services provided by primary health care institutions in the city of Zagreb and the county of Zagreb (with special emphasis on public health institutions) using the SERVQUAL instrument. It has been explored how many Croatian health care users use public services and how many use private primary health care institutions. An attempt was made to determine the importance that is given towards individual service quality dimensions and it was attempted to determine whether there are significant differences between the perceptions and expectations of users regarding the quality of services provided in primary health care institutions. The results have shown that there is a significant gap between the perception and expectation of service users, and that the gap differs for different dimensions of service quality. The management of public health care institutions must improve the service to all quality dimensions, but a particular attention must be paid towards those dimensions where the biggest gap was recorded: „responsibility“, „security“ and „reliability“. There hasn't been determined connection between the size of the measured gap for a particular quality dimension of the service and significance of that particular dimension for the service users, when it is compared to other dimensions. Finally, the authors point out that this research could be an incentive for healthcare managers and healthcare providers to measure future quality health services which would allow them to identify the elements that need to be improved in order to achieve greater satisfaction.

The authors of the paper entitled „Improving the quality of health systems of the member countries of the European Union and the Republic of Croatia“, Ostojić, Bilas and Franc (2012, 109-125) analyze the quality level and perspective of the development of the health systems of the member countries of the European Union and the Republic of Croatia. They conducted empirical research using semi-structured interviews on a sample of 49 respondents with the aim of defining recommendations and guidelines that would be applicable in the healthcare system of the Republic of Croatia, in order to achieve quality sustainability and equally accessible health care for everyone. On the basis of conducted analysis, they concluded that the quality of health care systems and, specifically, the quality of health care of the European Union countries are high, but there is uneven availability of quality and insufficiently developed quality improvement strategies. Only a few member countries have a longer tradition of quality management in healthcare and also those countries have regulated legal framework regarding regulation of the quality issue. As far as the Republic of Croatia is concerned, the results have shown that the quality of health services is satisfactory, but there are differences in the level of health care within the country, even between the hospitals. Recommendations for improving the quality of health care and functioning of the entire health care system include: further development and implementation of quality standards in health care operations, improvement of information systems as a way of promoting the quality of functioning of the overall system, insuring sufficient financial resources, investment in prevention, development of quality indicators and monitoring system as well as records that would enable quick reporting. The authors emphasize the importance of recognizing and respecting different dimensions of quality and setting realistic expectations, and according to them create a balanced health care system.

In addition to previous research from the region, we will point out several significant studies. Namely, the most important result of hospital service quality research conducted by Lam (1997, 145-152) in Hong Kong is confirmation that SERVQUAL can be used as a consistent and reliable instrument. However, the proposed five dimensions of SERVQUAL have not been proved, and each claim was observed separately. Apart for the dimension that is referred to tangible elements, for all others expectations were higher than the perceived level of quality of service provided.

Yeşilada i Direktör (2010, 962-971) questioned the satisfaction of patients with health services in private and public hospitals in northern Cyprus. They found that the gap between perception and expectation is lower in private than in public hospitals for all three set dimensions of service quality (reliability – trust, understanding and tangibility).

Unlike most of the other authors that have tested SERVQUAL from the patient's point of view, Lee and colleagues (2012, 17-36) conducted their research on a doctor's sample. This approach is considered justified if it is assumed that service users are often unable to estimate the key dimensions of medical services and therefore cannot contribute to designing an efficient healthcare system. In their research, they found that the dimensions of quality of services cannot be separated in the specific context of medical services, and they stressed the need to develop a new more appropriate model.

Thus, it is evident that there are numerous researches on the quality of health services, but ultimately researches emphasize the necessity for reforms and change, which requires the need for a new approach to managing and measuring quality within the overall health system, and in particular from the perspective of health service users.

3. Methodology of research

As stated at the beginning of the paper, the overall goal is to compare the expectations and perceptions of the users of primary health care services, as well as the gap for different dimensions of quality. Starting from the research problem and established goal, a hypothesis was also set that *„There is a statistically significant difference between the average rating of expectation and average rating of health care users in public institutions of primary health care"*. Empirical research was carried out on the basis of primary data collection by field research using the test method (written test method), using a highly structured survey questionnaire as a data collection form. Respondents were users of health services in the Tuzla Canton area. Data collection was carried out on the basis of a proportional stratified sample, since it belongs to the category of random samples and it allows estimation of the reliability degree when it comes to conducting conclusion of researched parameters. The research was conducted on a sample of 300 respondents, and included nine strata (nine municipalities in the Tuzla Canton area). Respondents were selected on the basis of availability in public institutions of primary health care. It is important to note that primary health care includes health centres, emergency medical facilities, health care facilities, and palliative care facilities.A controlled random sample was used for selection of the health care users in strata. Although, it is possible to talk about different concepts of quality, or different approaches and models for measuring and managing quality in the field of health, the most important is the SERVQUAL methodology. Namely, the SERVQUAL model provides the appropriate conceptual framework for researching the quality of services. It is based on the assessment of the quality of services provided by the users. Thus, according to this model, the quality of health services is the gap between expectations (E) and the perception of the quality of health service (P). SERVQUAL model is consisted of five dimensions of service quality: reliability, responsiveness, assurance, empathy and tangibles. The „tangible" dimension includes questions from 1 to 4 and implies the physical appearance and the entire property of the healthcare institution, such as: equipment, arrangement of the health facilities, uniformity of staff, promotional materials, etc. The „reliability" dimension includes questions from 5 to 9 and includes providing of health services without mistakes, providing of health care service at an agreed time, interest in solving the problem, etc. The „responsiveness" dimension includes questions from 10 to 13 and implies providing enough time and attention to each individual user of health services. The dimension „expertise and assurance" includes questions from 14 to 19 and implies the knowledge, abilities and skills of medical staff, which give confidence to users of health services. The „empathy" dimension includes questions from 20 to 24 and includes individual attention, care and understanding of the specific needs of health care users. The survey questionnaire contained 24 questions. A five-level Likert scale was used. Using the descriptive statistical, a comparison of the average assessments of expectations and perceptions of the users of health services by dimensions was made, and the gap between them was determined (table 1).

Table 1 *Gap between perception and expectation of the health service users*

Dimensions	Perception	Expectation	Gap
Tangible (1-4)	2,765	4,47	-1,705
Reliability (5-9)	2,926	4,684	-1,758
Responsiveness (10-13)	2,86	4,662	-1,802
Assurance (14-19)	3,368	4,746	-1,378
Empathy (20-24)	2,908	4,744	-1,836
Total gap	2,965	4,661	-1,695

Source: Authors´ research

Table 1. show that health care users have higher expectations in all dimensions than perceptions. The highest expectations of health service users are related to the dimensions of ″assurance″ and ″empathy″ and the ability of the staff to create an atmosphere of confidentiality, and the least expectations are related to the dimension of ″tangible″ (4,47). At the same time, when it comes to perceptions, healthcare users give the highest rating to the ″assurance″ (3,368) and ″reliability″ (2,926) dimensions, and the smallest perception is related to the ″tangible″ dimension (2,765). Based on the previous data, a gap is also calculated that represents the difference between the average rating of perceptions and expectations of health service users. The total gap is negative in the amount of (-1,695). The biggest gaps are the gaps in the dimensions of ″empathy″ (-1,836) and ″responsiveness″ with the amount of (-1, 802), while the dimension of ″assurance″ represents the narrowest gap (-1,378). Finally, the results show us the dissatisfaction of health service users in public health care institutions.

In order to test the significance of the difference between the arithmetic mean of the sample of expectations and perceptions of the users of health services, t-test of independent samples was used (the difference between the arithmetic mean of each variable in two groups). The question is asked whether two mean of the sample come from the population with equal means. In this research for comparison of means of two scales was used this test whose results were shown in table 2.

***Table 2** Results of the analysis of t-test (difference between average rating of expectations and average rating of perception of health care service users)*

Question (variable)		Expectation (average)	Perception (average)	T-test	Signif.
1.	Healthcare institution should have modern equipment (equipment, instruments)	4,65	2,38	32,117	0,000
2.	Facilities of healthcare institution should have attractive appearance (facility, lightning, signs, etc.)	4,43	2,55	24,557	0,000
3.	Staff of the healthcare institution should be adequately trained (uniform, neat appearance, accreditation, etc.).	4,70	3,49	16,560	0,000
4.	Materials related to health services such as prospects, catalogues, brochures should be visually attractive.	4,10	2,64	16,917	0,000
5.	The health care institution needs to insist on providing health services without mistakes.	4,78	2,85	25,747	0,000
6.	Health service users should be familiar with the ability and conditions under which team members make a home visit.	4,65	2,83	22,279	0,000
7.	The health care staffs needs to help patients in solving their problems.	4,72	3,02	22,551	0,000
8.	Health service should be provided in a pre-agreed term.	4,55	3,23	16,376	0,000
9.	The provided health service should be flawlessly provided during first visit	4,72	2,70	26,497	0,000
10.	Medical staff should treat patients with respect.	4,81	2,90	26,564	0,000
11.	The medical staff should, during the examination, dedicate enough time and attention to each patient.	4,78	2,85	26,041	0,000
12.	Medical staff should always be ready to respond to the demands of health care users.	4,65	2,89	23,630	0,000
13.	Patients should be asked for consent for a third person when a diagnostic or therapeutic procedure is performed.	4,41	2,80	20,054	0,000
14.	Medical staff should provide the patient with the necessary advice, information on testing, treatments, therapies, and treatment costs.	4,67	3,33	17,755	0,000
15.	Medical staff should talk to the patient about health protection and disease prevention (e.g. quit smoking, weight loss, diet, exercise, etc.).	4,65	3,37	17,141	0,000
16.	The health care staffs needs to explain to the patient when they need to come to a check, therapy or other treatment.	4,76	3,74	15,829	0,000
17.	Behaviour of healthcare staff should gave confidence to the users.	4,79	2,91	24,721	0,000
18.	The health care staff should have the appropriate knowledge and skills to be able to meet the needs of the users.	4,87	3,35	23,060	0,000
19.	Information that healthcare users own which are related to the health condition of the service user should be protected and not publicly disclosed.	4,74	3,51	17,135	0,000
20.	Medical staff should provide information or advice regarding the user's (patient) or state of user.	4,58	3,30	17,465	0,000
21.	All health care staff should be kind to health care users.	4,80	2,61	29,446	0,000
22.	Health care users should be satisfied with waiting room conditions (e.g. hygiene, room warming, etc.).	4,75	2,86	25,125	0,000
23.	When staying in a healthcare facility, service users need to feel safe (using lifts, medical equipment, violent behaviour, and personal safety).	4,79	3,06	23,675	0,000
24.	The prices of healthcare services should be reasonable.	4,80	2,71	29,356	0,000

Source: Authors´ research

Based on the data in the table, we can conclude that all the levels of significance are less than 0,05, which leads to the final conclusion that the H_1 hypothesis is accepted, that is, taking into account the above, we can conclude that using the t-test of independent samples, we confirmed the research hypothesis that: *"There is a statistically significant difference between the average ratings of* *expectations and the average rating of perceptions of health care users in public institutions of primary health care".*

4. Conclusion

In a modern business environment, the demand for a quality health service is becoming an imperative of today. Since in the 21st century health institutions compete on a much broader basis, superior health service is no longer sufficient. Accordingly, healthcare institutions are forced to focus on the requirements and needs of health care users. This fact directs an increasing number of healthcare institutions on to application of the concept of quality management as a crucial instrument in the fight against competition. At the time of market globalization, it is crucial that healthcare institutions understand the significance of this concept in order to constantly improve their service in all business segments. By looking into scientific and professional literature, we can concluded that there is a passivity when it comes to quality management in the health sector of Bosnia and Herzegovina, in relation to organized health systems in developed countries that have long time ago accepted the philosophy of continuous improvement of quality. However, it was started a discussion in Bosnia and Herzegovina about introduction of a quality management system in the health sector, due to the current international reform process of this sector.

The results of quantitative analysis identified the presence of a negative gap, and the average rating of expectations is higher than the average rating of perception according to all dimensions of the quality of health services. Therefore, based on the results of the research and statistical testing, the research hypothesis has been confirmed that there is a statistically significant difference between the average rating of expectations and the average rating of perceptions of users of health services in public primary health care institutions.

In the end, we can conclude that the health status of the population and health care in the entire territory of Bosnia and Herzegovina is the worst in the region. A critical overview of the health sector shows us an inefficiency of the sector itself, large number of complaints about the long waiting list for checkups at the specialists, and the problem that health care users have to pay participation for health services that are not foreseen by law. Approximately half a million of citizens do not have health insurance, and those who have it additionally pay for the services that by the Law should be free for health care users. In Bosnia and Herzegovina there is no ″strategic plan″ at the state level that regulates health system. According to its organizational structure, professional, legal and financial position, the health system in Bosnia and Herzegovina requires appropriate reforms and changes in order to preserve its functioning in meeting the needs of the users and preserving the safety of one of the basic human needs for the right to adequate health care. Reforms and changes in the health care system would imply a significant improvement in the existing efficacy and effectiveness of health care, but this necessarily requires the need for a new approach to quality management and measurement within the entire health system and the need to apply methods and models of modern management in health care. Hence, the health sector is becoming more and more occupied with the quality, with a crucial role in determining how users perceive the quality of health services.

REFERENCES

Berwick, D. (1996): ***The Year of How: New Systems for Delivering Health Care,*** Quality Connections, 5(1)

Codman, E. (1914): ***A Study in Hospital efficiency,*** repreinted by the Joint Commission on Accreditation of Healthcare Organizations, Oakbrook Terrace, Illinos

Goran, M. (1979): ***The evolution of the PSRO hospital review system,*** Medical Care, 17 (5)

Knaus, W. (1986): ***When is intesive care inappropriate? New prognostic measures provide answers,*** Health Management Quarterly, 1st Quarter

Lam, S. S. K. (1997): SERVQUAL: ***A tool for measuring patient's opinions of hospital service quality in Hong Kong,*** Total Quality Management, *8*(4), pp. 145-152.

Lee, S. M., Lee, D., Kang, C.-Y. (2012): ***The impact of high-performance work systems in the health-care industry: employee reactions, service quality, customer satisfaction, and customer loyalty*, **The Service Industries Journal, vol. 32, br. 1, pp. 17-36.

Mitry, N., Smith, H. (1979): ***Consumer Statisfaction: A Model for Health Care Administrators,*** Health Care Management Review, v4 n3 p7-14

Moosbrugger, M. (1987), ***Hospitals Must Survey Patients to Determine Levels of Statisfactions,*** Marketing News, vol. 21, Issue 18, p45

Ostojić R., Bilas V., Franc S. (2012): ***Unapređenje kvalitete zdravstvenih sustava zemalja članica Europske unije i Republike Hrvatske***, Poslovna izvrsnost, god. 6, br. 2, Zagreb, pp. 109-125.

Ozretić Došen, Đ., Škare V., Škare T. (2010): ***Mjerenje kvalitete usluge primarne zdravstvene zaštite servqual instrumentom,*** Revija za socijalnu politiku, god. 17, br. 1, Zagreb, pp. 27-44.

Taylor, R. J., Taylor, S. B. (1994): ***Manual of Health Services Management,*** Gaithesburg, Maryland, USA

Wennberg, J. (1985): ***Variations in medical pratice and hospital costs,*** 49(7), Connecticut Medicine, 49(7):444-53

Yesilada, F., Direktör, E. (2010): ***Health care service quality: A comparison of public and private hospitals***, African Journal of Business Management, vol. 4(6), pp. 962-971.

SPSS 22.0

Csaba Ruzsa, PhD Student
Institution/Affiliation: University Of Pécs
Postal Address: 7635, Pécs, Zurna d. 15.
Phone: 00-36-30-816-1419
E-mail address: ruzsa.csaba@pte.hu

KEY CHARACTERISTICS OF GENERATION Z AND MAIN CHALLENGES TO BE EXPECTED IN THE LABOR MARKET

KLJUČNE OSOBINE GENERACIJE Z I GLAVNI IZAZOVI KOJI SE MOGU OČEKIVATI NA TRŽIŠTU RADA

ABSTRACT

The main aim of this paper is to provide a general overview of Generation Z members regarding their digital habits based on international and Hungarian surveys. Furthermore, I also provide for a summary on the labour market indicators that this generation may trigger in the near future compared to previous generations.

In a nutshell, generation Z is a new generation and its members were generally born after the middle of the last decade. (Google, 2017, 13). Based on their behavioural features relating to the new tools of digital technology, this generation is usually called the first digital generation (Google, 2017, 11).

The Z generation uses the internet as daily platform for communication, social interactions and even for shopping. This generation is open to receive almost everything through internet, however, they need interactive communication and require fast responses in this digital environment. The smart phone is their most valuable tool to step into the virtual community. They use platforms that were not even known ten years ago. They tend to express their feelings, emotions and thoughts in a very fast way using apps. These apps influence their behaviour and may lead to new changes in their attitude to the education system and later on, even the work they want to pursue. The labour market will have to face up to new challenges and demands of this generation regarding flexibility and digital work environment. They also might wish to follow their dreams in their work. This paper does summarize the main attributes of generation Z and identify the possible challenges that their involvement may trigger in the labour market (Tulgan, 2013, 25).

The paper is based on literature survey as research method. The main research questions of this article will be focused on the causes and effects of the behavioural features of Generation Z members. More specifically, I will present the main features of their daily behaviour and usage regarding these new digital tools. In addition, I will also review the possible impacts in the labour market regarding the entrance of this new digital generation.

Key words: *Generation Z, digital challenges in the economy, labour market.*

SAŽETAK

Glavni cilj ovog rada je pružiti opći pregled pripadnika Generacije Z vezano uz njihove digitalne navike, temeljeno na međunarodnim i mađarskim anketama. Nadalje, također iznosim sažetak o pokazateljima tržišta rada koje bi ova generacija mogla potaknuti u bliskoj budućnosti u usporedbi s prethodnim generacijama.

Ukratko, Generacija Z je nova generacija i njeni pripadnici su općenito rođeni nakon sredine prošlog desetljeća (Google, 2017, 13). Temeljeno na njihovim značajkama ponašanja vezanima uz nove alate digitalne tehnologije, ova generacija se obično naziva prvom digitalnom generacijom (Google, 2017, 11).

Generacija Z koristi Internet kao svakodnevnu platformu za komunikaciju, društvene interakcije pa čak i za kupovinu. Ova generacija otvorena je prema ideji da prima gotovo sve putem interneta, međutim oni trebaju interaktivnu komunikaciju i zahtijevaju brze odgovore u ovom digitalnomokruženju. Pametni telefon njihov je najvrjedniji alat za ulazak u virtualnu zajednicu. Oni koriste platforme koje uopće nisu bile poznate prije deset godina. Oni su skloni izražavati svoje osjećaje, emocije i misli na vrlo brz način koristeći aplikacije. Ove aplikacije utječu na njihovo ponašanje i mogle bi voditi do novih promjena u njihovom stavu prema obrazovnom sustavu i kasnije čak i na posao koji žele vršiti. Tržište rada morat će se suočiti s novim izazovima i zahtjevima ove generacije u vezi s fleksibilnošću i digitalnim radnim okruženjem. Također bi mogli željeti slijediti svoje snove u svom poslu. Ovaj rad ukratko iznosi glavne atribute Generacije Z i identificira moguće izazove koje njihova uključenost može potaknuti na tržištu rada (Tulgan, 2013, 25).

Ovaj rad temelji se na istraživanju literature kao istraživačkoj metodi. Glavna istraživačka pitanja ovog članka bit će usredotočena na uzroke i posljedice značajki ponašanja pripadnika Generacije Z. Točnije, predstavit ću glavne značajke njihovog svakodnevnog ponašanja i korištenja u vezi tih novih digitalnih alata. Nadalje, također ću se osvrnuti na moguće utjecaje na tržište rada vezano uz dolazak ove nove digitalne generacije.

Ključne riječi: *Generacija Z, digitalni izazovi u ekonomiji, tržište rada.*

1. Introduction

In the last decades, the different generations have had different customs and behaviours. Most of these new behavioural features are connected to the so-called digital revolution started nearly 20 years ago. These significant changes have already led an also will lead to new behavioural features in the labour market as well. The generations that are still active in the labour market are the followings (McCrindle, 2011, 11):

- Builders generation, born before 1946, older than 60 years of age
- Boomers, born between 1946 and 1964, between 40 and 50 years of age
- Generation X, born between 1965 and 1979, mainly 30 years of age
- Generation Y (the Millennials), born between 1980 and 1994, teenagers and 20 years of age
- Generation Z, children born between 1995 and 2009

Looking at the current labour market statistics, we mainly determine that the following generations are active today: members of boomers generation, generation X and generation Y members. The main behavioural characteristics of each generations differ from each other. The main reason for these differences are related to the different working conditions these generations worked in.

The members of boomers generation are 50 and 60 years old today. This generation started to work in a calm and consolidated working environment at the beginning of their career. The main features of their first working place was that they worked at one place in a fixed working time. Personal connections among colleagues on a daily basis were important and common under these working conditions. The workers also had personal contacts to the members of management as well.

In case of generation X members, some of the rigid and fixed features of the labour market became looser. In case of this generation, the fixed working hours became more flexible, indefinite working hours were actually introduced. Furthermore, the continuous stress on reaching better and better performance all the time was also a new key factor at workplaces. Unfortunately, these changes led to real tensions at working places that have not been present at the working places before (Google, 2017, 11).

The next generation is called generation Y. Their members were born 20 and 30 years ago. It is important to note that these young people see the indefinite working hours and the continuous availability at work as a real disadvantage. Therefore, they would not like to work at a workplace where they have to be available for the whole week. The reply of this generation is mainly the frequent change of jobs. In their case a saturated labour market can be described, therefore, they have the chance to change jobs if the working conditions are not determined as they wish them to be. The members of generation Y have a tendency to prefer the so-called community workplaces. Based on their expectations, a so-called community workplace has to be family-friendly. These expectations may refer to the smaller number of working hours spent at the workplace and to rules that hinder the continuous "digital" availability at weekends. These working conditions were not present in case of earlier generations entering the labour market at all.

If we review the current structure of the labour market, we may determine that in the next ten years, the members of builders and boomers generations, generation X members and the members of generation Y will influence the global labour market trends. In our present case, we would like to draw attention to the fact that a new generation will enter the labour market and this event will lead to significant and more complex changes in the labour market than ever before. The members of this generation still go to school today, however, they will join the group of employees and even the group of managers based on the new economic trends in the coming years. (Gallup 2016, 5).

In their case, we can only anticipate their main behavioural features. Based on our findings, we can see that our educational tools and the forms of education will have to be updated to be able to teach this generation successfully. Should we teach them in the current way with our current tools, we will see real gaps based on their expectations towards the current educational system. The lack of change in the educational system may even lead to serious damages, since our current materials and subjects differ significantly from the forms and subjects that they expect from the educational system. We could even see in the case of the earlier generations, especially in case of members of generation Y that they have already refused to accept the forms education based on the so-called traditional or Prussian model. These generations have already expressed their wishes for a more interactive form of education to be introduced and even for new technological tools to be integrated.
We have to see in case of the Hungarian educational system that the expectations of these generations were not entirely respected when new changes were introduced into the system. The main problem is that The Hungarian system has a low ability to be able to reply to new challenges, therefore, we cannot anticipate real and sweeping changes in the current system.
The changes introduced recently in Hungary have primarily focused on the structural and formal issues instead of focusing on the tasks to able to meet challenges deriving from the process called digital transformation (Ernst & Young LLP, 2016, 10).

The generation Z members still go to school today, however, they will enter the labour market shortly. Based on my findings, there seems to be a huge hiatus between the knowledge they will need to apply in their daily life at their workplaces in the near future compared to the knowledge they obtain at schools today. Unfortunately, many of them will face up to this fact late, only after entering the market. They will only realize it late that their gained knowledge is insufficient regarding the level and size of skills companies and employers' expect in the labour market today. They will also have to see when they enter the market that even if someone had performed well in the so-called Prussian system, even those do not possess the necessary skills in this respect. Looking at labour market analysis reports, we may see that in many cases students have to obtain several superfluous amount of knowledge, while, the necessary skills are not taught in the desired amount.

2. International outlook on the main behavioural features of Generation Z members

I analysed the main international reports published in the last years regarding the main behavioural features of Generation Z. One of the most comprehensive report in this regard has been put together by Google in 2016. Ipsos, the opinion poll company, was involved in making the report. The number of the sample exceeded 2000 persons and the report was published in 2017. This report primarily was focused on generation Z members living in the United States in 2016. I also analysed similar international, German and Hungarian reports and data in this regard as well. As a result, I can conclude that the Google report findings describe the main general features of the Generation Z members even at international and global level. Summarizing the main results of the Google and international reports, four key features van be determined regarding Generation Z members (Ernst & Young LLP, 2016, 12):

- To get the first smart phone is a very important event in their life.
- Compared to previous generations who already had smart phones, we can see that the members of previous generations received the first phone at the age of 12 on average. However, the members of generation Z receive their first smart phones at a much earlier age.
- Watching videos is the main activity regarding smart phones.
- Reviewing how all generations use smart phones and to what extent, we can see that generation Z members spend most of their time using their smart phones. Within this period of time, they mostly spend their time by watching videos. We found in the reports that 70% of generation Z members spend on average more than 3 hours per a day by using their smart phones.
- It is also important to note that they also have a tendency to shop online with their smart phone. Based on the findings, more than 60% of them makes their shopping online. We may also determine that nearly 50 % of the online shoppers use their smart phone for the purchase transactions.
- To get to know each other within the generation is very important for them. They use online platforms, messaging apps to talk to each other. The online contacts are very important forms of communication with respect to this generation. The online environment makes it possible for them to get to know each other even if they are not in the same place. This type of communication is primarily based on texting each other, messaging applications and online platforms.

Besides the reports regarding the above, we can also find several research studies that aimed to describe the behavioural features of generation Z members.

A similar Australian research published its findings and determined that the behavioural features of generation Z members significantly differ from that of the previous generations in the last century. This report also concluded that this generation will be the first global generation and will grow up by listening to the same music, watching the same movies and even by tasting the same foods. It was also highlighted that since this generation has the smallest number compared to previous ones. Therefore, the members of this generation will probably be better educated than the ones before. The members of this generation will be part of smaller families than the members of earlier generations where families had more members. They even concluded that their mothers will be the oldest and their life expectancy will also be the longest (Tulgan 2013, 12).

Based on US statistics regarding the number of generation Z, it can be stated that the number of generation Z members adds up to 26% of the whole US population.

3. The main characteristics of Hungarian Z generation

Several studies have already been published in Hungary regarding the main behavioural features of generation Z members. As a result, I managed to use results of numerous researches and studies in this regard. Based on these studies, I summarize the main characteristics of generation Z members (Tari. A. 2011, 14):

- More than 800.000 generation Z members live in Hungary today. This number adds up to 12.5% of the whole population in Hungary. Putting it into an international context, we can see that this number is not even half of the US figure (26%).

- On their priority list, it is very important for them to have a smart phone following the driving licence and the high school graduation. Based on the findings, it can be stated that they usually talk more in the virtual space than face to face in the real world. Reviewing the results of global and international surveys carried out regarding the generation Z, we can determine that the results of Hungarian generation Z surveys are in accordance with that of international studies (Zombainé Tarnótzky Krisztina 2015, 15).

- Referring to Hungarian surveys, more than 30% of generation Z members said that they talk to people in the cyberspace by using chat apps, even if they are in the same room. This finding is also in accordance with the results of international surveys.

- More than 50% of generation Z members involved in the survey stated that it is important for them to have a high number of followers in the social media, since this gives them self-confidence. However, this finding was not included in the list of key findings of international surveys, we can still analyse the US figures in this regard. Following the analysis, we can see that the US members of generation Z have similar user behavioural features and preferences in the social media compared to that of the Hungarian members (Vincze Dalma 2015).

- Most of teenagers has already possessed a smart phone at the age of 12, however, the members of earlier generation, who are of age between 25 and 34 today, got their first smart phone only at the age 20. This time gap has led to a huge differences regarding the behavioural features compared to that of earlier generations. Comparing the results of Hungarian and international surveys, we can see that both Hungarian and US generation Z members receive their first smart phone at the same age (Vincze D. 2015, 14).

Further to the above, we can determine by analysing the differences between generations that generation Z will be significantly different from the previous ones and they will be the first digital generation. They are were actually born into the digital world, therefore, the presence of digital tools is evident and ordinary for them. As a result, they do not classify these tools as auxiliary tools but they take them as an integral part of their daily life.

Regarding the behavioural features of new and young generations, we can see that they spend most of their time by being online and living in virtual communities. It is also common that they build their relations in the social media platforms and also use these platforms for keeping contacts.

The main findings of the survey made by the GFK institute in Hungary also have to be highlighted. Nearly 25% of the Hungarian young people feel that they have difficulties with respect to making contacts in their real world, however, in their virtual world they manage to build relations much easier (Gallup, 2016, 4).

4. Main habits of Hungarian and international generation Z members in the virtual world

The surveys mentioned above have not only focused on the general behavioural characteristics, but also on the periods of time devoted to one habit in particular. The results of international and Hungarian surveys do overlap each other, nevertheless, we have to emphasize that these results also underpin the assumption that there has been established a global and virtual village in case of the generation Z members.

This digital village assumption describes that its members move in the same virtual space and their consumer habits have mainly been developed in the virtual world. In addition, these habits are also very similar in case of the generation Z members. Furthermore, the new communication platforms and channels used by this generation are also developed in the virtual world and the results of these interactions will also stay in this environment (Gallup, 2016, 6).

Based on the surveys, the following five key grouping features can be determined:

- they are passive users of Facebook unlike earlier generation members
- Every day is a new story - Snapchat, Spotify
- Messaging with apps - Messenger, Twitter, Whatsapp
- Picture is the new text – Instagram, Pinterest
- What would a generation Z member like to be? Online video maker is their main aim.

Based on the results of surveys, we may conclude that members of generation Z prefer the so-called instant consumption and to enjoy new experiences each day. This is based on their assumption relating to the digital world that everything is easy to get. Since they move in a virtual world, therefore, everything seems to be only a click away for them. It is a key feature that they feel they can actually get anything in the internet right away. Should they not be satisfied with it, they just move forward by clicking away from that place. We can also see that if there is no loyalty evolved in them towards a brand or a product, then they can easily move forward in the virtual world. They do not hesitate at all to go somewhere else to do their shopping if they dislike something (Triple-A-Team, 2016, 6).

There is a special rule relating to online consumer habits that has been described by Google as the three klick rule. This means that if a company may not provide the option of sale within three klicks on its webpage, it is highly probable that the potential customer will leave this virtual place. Although the generation Y members could also have been seen as a part of a digital generation, the habit called instant anger was not peculiar to them. However, we can see that the generation Z members really suffer if a digital tool does not work and consequently, they have to be offline (Google, 2017, 12).

It can also be a very irritating situation for them if they feel disrespected. Since they are part of the virtual world and this world is open for them, and they can even join public discussions where their opinions are heard and taken into consideration. They did not even have to mention their real age in the virtual world. Therefore, a complaining email may even be seen as one sent by an adult. In reality, they have just become teenagers. In many cases, they also do not accept at school if teachers try to suppress them. Furthermore, a service provider company would rather have even less chance to treat them that way.

Regarding their attitude towards community platforms, it has to be stated that platforms earlier seemed to be the tools of freedom for earlier generations, this new generation disagrees with this opinion. Facebook is an excellent example in this regard, since generation Z members are passive in this environment. They only receive contents through this platform, they do not share any content here. It is also important to note that their parents and grandparents are also on the Facebook, therefore, if they had shared any content there, their parents and even their teachers would even see it (Zombainé T. K. 2015, 15).

The most popular application in this generation is Snapchat today, since this provides opportunity for fast communication and texting short massages to the friends. They continuously send messages to this platform relating to their events, experiences and even to the latest news. In addition, we have to mention that face book is not used actively by them, but the face book messenger is also preferred by them for messaging. Whatsapp and Kik applications are also popular among them. To sum it all up, we may conclude that chat applications ae more popular among them the social media platforms. We can even put it this way: Snapchat is their Facebook (Google 2017, 10).

Twitter is also widely used by them. This app is interesting for them since they can experience that they are not only among them in this platform. It also provides an opportunity for them to contact important people, musicians, actors and celebrities. The possibility to receive feedbacks to an own "tweet" is also a key important factor for them to use this platform (Vincze D. 2015, 20).

In addition, we have to mention that music is also a very important for this generation. Unsurprisingly, listening to music also happens in the virtual world in case of this generation. They use an application for this: Spotify. In this platform, they can also share with their friends what they are listening to. This application also enables them to receive feedbacks right away similarly to the previously mentioned applications.

In addition, we can also determine in case of this generation that pictures became a very important element in communication. The application for picture sharing they mostly use is the Instagram. We could even say that the new text is the picture. To analyse this context, we have to see that the text-based platforms such as Facebook are not so interesting for them compared to earlier generations' habits. They prefer sharing less text and more pictures to text only. Since Instagram application enables this type of communication for them, this application became very popular. In a recently published online research in Hungary, more than 50% of high schools students said that it is very important for them in Instagram that they can express their own personalities by sharing nicely composed pictures. (Antall K. C., Noguchi P. N. 2017, 12).

We can also define from the surveys which applications generation Z members disliked the most. I just compiled a list of applications with lowest popularity rankings (Ernst & Young LLP 2016, 4):

- Google+: In practice, they do not use it at all. Many of them does not even know it at all.
- Whisper: It is not a well-known application either. This application could enable people publishing confessions, dramatic statements in an anonymous way.
- Vine: This video maker platform seems to be fading away from the internet, since the number of its users is decreasing.
- YouTube: This platform is very popular, however, we can see a decreasing trend in the number of its users in the last years. In case of generation z members, watching videos is preferred, nevertheless, it is difficult to predict today which platform will be successful in this regard.

5. Predictable challenges in the labour market regarding Generation Z

When the generation Z members enter the labour market, significant changes are to be foreseen. As mentioned above, the number of this generation is lower than that of the earlier generations. This fact may lead to shortages in the labour market, since the demand will rise and the supply diminish at the same time. This will lead to a fierce competition among employers. Based on my forecasts, these changes will have to lead to a severe restructuring on the demand side of the labour market (Adecco, 2016, 12).

Based on the findings deriving from the Instagram users' habits and expectations, we have to highlight the fact that this generation will require a very well-designed, attractive working place for them. Furthermore, this will also help companies to keep their already educated labour force.

Labour force education and planning of labour resources will also have to get on the top of the priority list of companies in the near future, since the expressed desire by generation Z members that each day is a story will be a challenge for companies to deal with.

Analysing labour market forecast reports in this regard, we can see that the so-called 'freeters' will be dominant in the labour market in the future. If we take the examples of today in the market, we can see a type of salary man for whom still the employer can set the main working conditions as a part of company culture (Singh, Dangmei 2016, 10).

The generation Z member will be seen as an employee who wished to work at different places at the same time. This feature will also support its wish to make its dreams come true. They will not be hold on to just one company, since they will not worry about not having a fix position and a salary. As a result, companies will face a real challenge how these people can be integrated into their structure provided that their main aim is to make their dreams come true without having too much fixed positions at a company.

This generation will also be the generation of self-expression. This phenomenon will force the companies to be transparent and to communicate with its employees continuously. The companies have to be transparent in a sense that that the values a company will demonstrate to the outer world cannot be different from the values the company is applying within the company. Should there be a conflict between these two pictures, tools of digital communication will help employees to reflect the distorted image regarding internal values. As a result, company image, values and company culture will have a very important in the long run to be able to attract and to keep employees in the future.

6. Summary

Generation Z will be the first digital generation based on its behavioural features. The main differences compared to earlier generations will be determined with respect to their behaviour in the digital world. Consequently, generation Z will be socialized in the wold of digital media and digital tools. These new phenomena will mainly differ their attitude towards the labour market and the companies. This generation will communicate in new digital channels and use new digital platforms even in their daily life.

The labour market has to be prepared that this generation will be very well educated and hopefully will possess the necessary skills companies expect. We also have to mention that since this generation has the lowest number compared to previous ones, his fact will lead to shortages in the labour market. Besides challenges deriving from the low number of employees, companies will have to meet numerous new challenges as well. These generation members wish to make their own dreams come true and to work at different places at one time. Therefore, companies will have to restructure their internal structures and be more transparent and pay more attention to the needs and wishes of its employees than ever before. Even new forms of employment will appear in the market by providing more flexibility for the employees than ever before.

REFERENCES

Adecco USA (2015): ***Generation Z vs. Millennials***, Adecco 2015 Way to Work Survey, pp. 5-12., http://pages.adeccousa.com/rs/107-IXF-539/images/generation-z-vs-millennials.pdf (accessed 15 January 2018)

Antall J. T. Sz. M. and Noguchi Portell Novelli A. (2017): ***Online kutatás Z generációs szokásokat illetően***, Budapesti Metropolitan Egyetem, pp. 3-8.

Dr. A.P. Singh, J. Dangmei (2016): ***Understanding the Generation Z: The future workforce***, South-Asian Journal of Multidisciplinary Studies, 2016/3/31, pp. 2-12,

Ernst & Young LLP (2016): ***Next-gen workforce: secret or weapon or biggest challenge?***, EY Publication, 2016, pp. 2-10. http://www.ey.com/Publication/vwLUAssets/ey-next-gen-workforce-secret-weapon-or-biggest-challenge/$FILE/ey-pdf-next-gen-workforce-secret-weapon-or-biggest-challenge.pdf (accessed 28 December 2017)

Gallup (2016): ***How Millennials Want to Work and Live***, Report from Gallup, pp. 2-11.

Google (2017): ***Think with Google, Generation Z, New insights into the mobile-first mindset of teens***, https://storage.googleapis.com/think/docs/GenZ_Insights_All_teens.pdf (accessed: 11 November 2017)

Marc McCrindle (2011): ***Word Up: A Lexicon and Guide to Communication in the 21st Century***, pp. 11-23.
http://mccrindle.com.au/resources/whitepapers/McCrindle-Research_ABC-01_Generations-Defined_Mark-McCrindle.pdf (accessed: 18 January 2018)

Tari Annamária (2011): ***Z generáció***, Terricum Kiadó Kft., pp.12-22.

Dr. Törőcsik Mária, PTE KTK egyetemi tanár, Szerkesztette: Pál Eszter (2013): ***A „Z" generációról - Irodalmi áttekintés***, TÁMOP-4.2.3-12/1/KONV-2012-0016 SZÁMÚ, „Tudománykommunikáció a Z generációnak"c. projekt, pp. 22-32.

Triple-a-Team AG (2016): ***Generation Z, Metastudie über die kommende Generation***, pp. 3-9., http://www.sprachenrat.bremen.de/files/aktivitaeten/Generation_Z_Metastudie.pdf (accessed: 18 January 2018)

Bruce Tulgan (2013): ***Meet Generation Z: The second generation within the giant "Millennial" cohort***, Rainmaker Thinking, Inc., 2013, pp. 22-35.

Vincze Dalma (2015): ***Z generáció és a mobiltelefon***, Szeged, 2015, OTDK, Szegedi Tudományegyetem, pp. 12-24.

Zombainé Tarnótzky Krisztina (2015): ***Generációk összehasonlítása, különös tekintettel a Z generáció és tanáraik között fellelhető különbségekre***, Budapesti Gazdasági Főiskola Kereskedelmi, Vendéglátóipari és Idegenforgalmi Kar, pp. 12-18.

Anamarija Delić, PhD
Josip Juraj Strossmayer University in Osijek
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7, Osijek
Tel: +385 31 224 426
E-mail address: adelic@efos.hr

Julia Perić, PhD
Josip Juraj Strossmayer University in Osijek
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7, Osijek
Tel: +385 31 224 426
E-mail address: julia@efos.hr

Tihana Koprivnjak, MA
Josip Juraj Strossmayer University in Osijek
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7, Osijek
Tel: +385 31 224 491
E-mail address: tihana@efos.hr

THE ROLE OF EXTRACURRICULAR ACTIVITIES OF STUDENTS IN DEVELOPING ENTREPRENEURIAL EDUCATION

ULOGA IZVANNASTAVNIH AKTIVNOSTI STUDENATA U RAZVOJU PODUZETNIČKOG OBRAZOVANJA

ABSTRACT

Entrepreneurship and innovativeness have been accepted as one of the eight key competences necessary for all members of knowledge-based societies. Although these competences should be developed from the kindergarten, universities still have a major role in initiating, supporting and creating entrepreneurial education. However, many studies have shown the inability of universities to change and create programs that can produce skills and knowledge needed to overcome ever-increasing levels of complexity and insecurity. There is, now more than ever, a need for evaluation of available educational programs, which should result in a change in pedagogical methods and traditional roles of teachers as educators. According to the Budapest Agenda, it is important to innovate and improve teaching methods and to develop a relationship with local community for stronger linkage between teachers and the "real world". Thus, two factors are equally important for the success of entrepreneurial education process and better employability of students: the new role of the teacher - the facilitator's role, and the reflective "do-learn-think behaviour principle" for the students. The paper aims to explore extracurricular activities as a "do-learn-think" principle that improves students' employability. Also, the role of teachers, which should be both mentors and educators, will be reassessed in the paper. The paper describes the case of the Faculty of Economics in Osijek at the J.J. Strossmayer University of Osijek as a leading institution in this region in supporting extracurricular activities.

Key words: *entrepreneurial education, extracurricular activities, students, teachers.*

SAŽETAK

Poduzetništvo i inovativnost su prepoznate kao ključne kompetencije za sve članove društava koji svoj razvoj temelje na znanju. Iako se ove kompetencije trebaju razvijati još u vrtiću, sveučilišta i dalje imaju važnu ulogu u pokretanju, podupiranju i stvaranju poduzetničkog obrazovanja. Međutim, mnoga istraživanja pokazuju nesposobnost sveučilišta da mijenjaju i stvaraju programe koji mogu proizvesti znanja i vještine usmjerene prema svladavanju visoke razine kompleksnosti i nesigurnosti. Sada, više no ikada prije, postoji potreba za procjenom dostupnih obrazovnih programa što bi trebalo rezultirati promjenom pedagoških metoda i tradicionalnih uloga nastavnika kao edukatora. Prema Budimpeštanskoj agendi važno je inovirati i unaprijediti metode podučavanja i razviti odnos s lokalnom zajednicom kako bi se ojačala veza između učitelja i "stvarnog svijeta". Prema tome, dva su faktora jednako važna za uspjeh poduzetničkog obrazovanja: nova uloga nastavnika – uloga mentora i princip "radi-uči-misli" fokusiran na razvoj studenata. Ovaj rad istražuje izvannastavne aktivnosti kao metode "uradi-uči-misli" koja poboljšava zapošljivost studenata. Također, rad će se fokusirati i na ulogu nastavnika kao edukatora i kao mentora. Rad opisuje slučaj Ekonomskog fakulteta u Osijeku kao vodeće institucije na Sveučilištu Josipa Jurja Strossmayera u Osijeku koja podržava izvannastavne aktivnosti i potiče student na veću uključenost i angažman.

Ključne riječi: *poduzetničko obrazovanje, izvannastavne aktivnosti, studenti, nastavnici.*

1. Entrepreneurial education

Entrepreneurial behavior is necessary for every individual in all aspects of life. Creating entrepreneurial culture and way of living is highly important in today's ever-changing world, which is characterized by complexity and insecurity. Entrepreneurship is considered as one of the eight key competences of lifelong learning (EU, 2006), but the question that is constantly arising is "Can entrepreneurship be taught?".

European Commission (2013) acknowledged that investment in entrepreneurship education has one of the highest return investment to be made, because people involved in entrepreneurial learning develop series of important skills and attitudes, such as creativity, initiative, tenacity, teamwork, understanding of risk, and sense of responsibility. European Commission (2013) also states that practical entrepreneurial experiences can also be gained outside education and that it is necessary to encourage young people to develop entrepreneurial skills through informal and non-formal education, and those experiences should be validated and recognized. This is accordant to opinion that the only way to become entrepreneurial is through direct experience (Lackéus, 2013).

Although entrepreneurship education is relevant topics and it is gaining more and more interest from different stakeholders, there are still divided views on what entrepreneurship education really is. Entrepreneurship education is often identified with new venture creation, which is a narrow view. On the other hand, number of authors is focusing on much broader view of entrepreneurship education and according to that view, "…the aim of enterprise (or enterprise approach to education) is to develop enterprising behaviors, skills and attributes and by this means also enhance student's insight into, as well as knowledge of, any particular phenomenon studied" (Gibb, 1993). Lackéus (2015) talks about three approaches to entrepreneurship education: teaching about entrepreneurship (general understanding of phenomenon), teaching for entrepreneurship (development of entrepreneurial knowledge and skills) and teaching through entrepreneurship (entrepreneurial learning process). Therefore, focus has moved from content based and passive approach to process based, active and multidisciplinary approach.

1.1. Role of universities

Nowadays, education institutions should become more entrepreneurial because their role is not only to transfer the knowledge or create new knowledge, but they are expected to become active participant of the society, "to ensure that they develop and live a culture of entrepreneurship and innovation through their missions, leadership, stakeholder engagement, curricula and learning outcomes" (European Commission, 2013). Entrepreneurial organizations are creating the value through innovation, in which value can be identified as economic, societal, cultural and/or technological (Jameson and O'Donell, 2015). Phillpot et al. (2011) argues that it is unlikely that Government and Industry will reduce their pressure on the universities to engage in entrepreneurial activity and contribute to economic development.

The pressures on universities are covering many aspects of university activities: discovery, direction of scholarship, teaching and learning, relevance to society, student partnership and community engagement (Gibb&Haskings, 2014). Universities have to facilitate social mobility and give wider access to higher education for disadvantaged groups; enhance graduate employability, make short-term and long-term contributions to national economic growth and local development, and stimulate creation of new enterprises and innovation in existing firms (HEInnovate).

1.2. Trends and challenges in higher education

Constant changes and new trends are considered to be both, threat and opportunity for higher education institutions. Gibb and Hasking (2014) say that "…opportunities lie in the ability of institutions to: adopt an entrepreneurial organization model; strategically assess the stakeholder environment; identify appropriate responses; seek to bring forward stakeholder futures alongside their own vision; build upon views of the long term HE environment; match it to their own organization strengths and weaknesses; and develop a discovery, learning, educational and relationship agenda accordingly".

Gibb (2009) talks about three key challenges which universities need to respond to: (1) wider exploitation of intellectual property and creation of new learning by partnership with external stakeholders; (2) the university becoming a hub for regional and local economic and social development; (3) the preparation of graduates for entrance into a world of uncertainty, complexity but also of greater opportunity.

European Commission (2014) also emphasizes three main challenges for higher education, as follows: challenges form globalization, challenges from the changing supply of and demand for higher education and challenges from changes in higher education funding.

Willson et al. (2014) found five main trends in higher education. Those trends are: (1) revenue from key sources continues to fall; (2) demand is rising for a greater return on investment in higher education; (3) greater transparency about student outcomes is becoming the standard; (4) new business and delivery models are gaining traction; (5) the globalization of education is accelerating. Similar to that, other research found that future of higher education will be influenced by social trends (e.g. changes in student demographic patterns), technological developments, globalization of education and increasing fiscal constraints (Morrell and Hargrave, 2012).

If universities do not respond to the demands of their environment, they could repeat the mistake of some European universities, which became irrelevant due to their lack of interest and response for environmental changes (Oberman Peterka et al., 2012). To be able to do so, universities need to be ready to do considerable changes in pedagogy, assessment and accreditation and the appropriate training of staff (Gibb, 2009).

2. New teaching methods and recommendations for entrepreneurial learning

Being recognized as one of the eight life competencies, entrepreneurship education become infallible part of education on HEIs. Entrepreneurship development and education are now also central to many government policies for building a knowledge driven economy and an entrepreneurial culture

(Hannon, 2006). These facts increased also the interest of the researchers on where and how entrepreneurship is taught. Much of the focus in entrepreneurship education, according to Sherman, Sebora and Digman (2008), has been on developing a business plan, visits from experts, case studies and special projects related to the development of the business. When asking whether "universities in general and business schools in particular can or should contribute" to creation of more entrepreneurial individuals, Kirby (2002) is trying to find an answer on results that were showing lower performance scores of students and even lower propensity to be entrepreneurial of students that were involved in entrepreneurial programs across UK in 1990-ties. Later, following the same question, Hannon (2006) will conclude that entrepreneurship education needs deeper understanding. Majority of literature is focused on describing the impact or effectiveness of different methodologies for teaching entrepreneurship (Sherman, Sebora and Digman, 2008) ignoring the important elements that could foster its effectiveness and ensure that we avoid pedagogical stagnation (Bechard and Gregoire, 2005). Fayolle et al. (2006) concluded that researchers should focus more on outcomes of the educational education, and more attention should be paid to the importance of the specific educational variables, such as programme design and pedagogical approach (Dilts and Fowler, 1999). In discussion about capability of business schools in educating and producing entrepreneurial individuals, there are also contrasting views. Johannisson (1991) thinks that entrepreneurial education is "beyond capabilities of an academic business school", while Katz (2003) sees the future growth of entrepreneurial education outside of business schools. The challenge is really to address and overcome obstacles and move beyond "teaching pigeons to dance" (Hannon, 2006).

In order to move beyond obstacles, first it is necessary to understand the complexity and diversity of the field. There is no single philosophy or model of entrepreneurial education that can meet all the challenges. Further, expectations of the teachers have been changed. They should be drivers, but also influencers. The role of teachers is now really challenging, both conceptually and pedagogically. Hannon (2006) will conclude that teachers or educators should keep pace with other professional educators across a wide range of disciplines. The educators should be more concerned with principles, end results and providing to the students "the whole picture" (Darkenwald and Merriam, 1982). In building the picture of the educator that could address all the issue in the process of entrepreneurial learning, one should take into account that entrepreneurial behavior is more affected by external influences and exogenous factors, than the examples cited in the classroom (Ajzen, 2002).

Through support of the projects aimed at improvement of entrepreneurial education, European Commission, provided worthy documents that pointed on the new roles of the teachers and educators. Oslo Agenda for Entrepreneurship Education[1], published in 2006, was the first document aimed to promotion of entrepreneurial mindset in society, systematically with effective actions. Budapest Agenda – Enabling Teachers for Entrepreneurial Education, followed in 2012, and was the first catalogue of measures to be drawn upon by stakeholders at all levels within the worlds of education, business and the wider community in order to take forward the development of teacher education in entrepreneurship.[2] The Agenda offered a good practice examples that could help in providing the whole picture while teaching for and about entrepreneurship.

One of the examples of good practice is also Finnish Innovation pedagogy. Innovation and entrepreneurship competence are seen as part of every occupation and therefore need multidisciplinary approach. The roots of Finnish Innovation pedagogy can be found in Kolb's (1984) experiential learning, which could be defined as any learning through experience. Experiential learning occurs when students engage in some activity, reflect upon the activity, derive insights from the analysis and incorporate the results through a change in understanding (Kolb, 1984). The Finnish Innovation pedagogy is focused on the training that will produce skilled professionals for the needs

[1] Oslo Agenda for Entrepreenurship Education - file:///C:/Users/User/Downloads/oslo_agenda_final_en.pdf, accessed 12 February 2018

[2] The Budapest Agenda - file:///C:/Users/User/Downloads/budapest_agenda_en%20(1).pdf, accessed 12 February 2018

of business and working life (Kairisto-Mertanen, 2013). This new pedagogy should provide usage of the learning acquired previously and its application in similar, but new situations.
Among all mentioned pedagogies that could and should provide better results in terms of creation entrepreneurial individuals, ready to take all the challenges from the labor market, Faculty of Economics in Osijek, Undergraduate and Graduate program in Entrepreneurship tries to develop programs and activities that proved the best results. According to Kirby (1992) and Olson and Bosserman (1984) individuals will exhibit entrepreneurial behavior when they possess a combination of three attributes, namely: role orientation, abilities to think both intuitively and rationally and motivation. Through multidisciplinary project Legal Economic Clinic, but also through the extracurricular activities, Faculty of Economics tries to follow principles of suggested pedagogy in developing of entrepreneurial individuals.

3. Innovative ways of developing entrepreneurial competencies of students – extra-curricular activities at Faculty of Economics in Osijek, J.J. Strossmayer University of Osijek.

The Faculty of Economics in Osijek has been recognized as the first faculty in Croatia, but also in this part of Europe that advocates, supports and seek to implement entrepreneurial education through the both formal education system (entrepreneurship as undergraduate, graduate, specialist and doctoral level) and through creation and promotion of various extra-curricular activities. Extra-curricular activities is becoming an increasingly important instrument in developing students' entrepreneurial competences and necessary experiences for developing future professional career. Each year there are more and more extra-curricular activities at the Faculty of Economics in Osijek and all are aimed at developing competencies and skills needed for strengthening students' employability. This chapter will present some of the most current extra-curricular activities at the faculty with the special emphasis on the importance of the teacher-mentor in the process of student inclusion and active participation in extra-curricular activities.

3.1. Legal-economic clinic

The Legal-economic Clinic Osijek was launched in 2013 as the initiative of the Faculty of Law and Economics in Osijek with the purpose of enabling students to transfer and apply theoretical knowledge to concrete business problems. Because of its interdisciplinary approach, the Legal-economic clinic Osijek is the only such clinic in the world. The idea behind this project was to provide students with knowledge from the fields of law and economy so they can use this knowledge to give free counselling services to the companies from Osijek-Baranja county (start-ups and small and medium-sized enterprises). The counselling services provided by the students are monitored by network of mentors made by the professors from the faculties of Law and Economics, the lawyers, notaries, Judges of the Commercial Court in Osijek, the Bar Association and the support institutions such as business incubator BIOS, Centre for entrepreneurship Osijek and Croatian Employers' Association.

This interdisciplinary project aims to actively and directly involve students in solving specific legal and economic problems, which gives them the opportunity to apply acquired theoretical knowledge in practice, contributing thus to the development of the system of providing free legal and economic assistance (Delić et al., 2016). According to Delić et al. (2016) co-operation is realized through various forms, including: student work in solving specific business problems, legal and economic counselling, work on joint (scientific and economic) projects and business solutions and performing other tasks, appropriate to the knowledge and skills of students. This innovative pedagogical teaching method enables students to experimentally learn through working with entrepreneurs and collaborating with students and mentors from other research disciplines (given the interdisciplinary approach students work in mixed teams of three members and two mentors, one from each field).

The organization and regulation of Legal-economic clinic is the responsibility of teacher - mentors from both faculties. Students are, however, responsible for organizing and managing meetings with entrepreneurs as well as for cooperating with other team members and leading the team in offering entrepreneurs the best possible solutions. Each student engaged in the Legal-economic clinic participates in at least two cases, most often assisting entrepreneurs with legal and tax advice, developing business plans, helping entrepreneurs to decide which legal form of a potential venture they should choose, drafting contracts and so on. With active engagement in the clinic, students have the possibility to gain specific knowledge and skills such as interviewing skills, knowledge on collecting and processing data, teamwork and networking skills, managing meetings, time management skills, consulting skills and report writing.

3.2. INTENSE project

INTENSE – **INT**ernational **EN**ntrepreneurship **S**kills **E**urope is a transnational project among five European Higher Education Institutions (HEI) funded by the EU programme Erasmus+. The partners in this project are Hchschule for Technik and Wirtschaft – HTW Berlin, Germany, University of Applied Sciences Utrecht, Netherland, University of Applied Sciences LTD TUAS – Turku, Finland, UC Leuven Limburg, Belgija and Faculty of Economics in Osijek. INTENSE aims to promote the collaboration and innovative practices between Higher Education Institutions (HEI) and European Small and Medium-sized Enterprises (SME) in order to stimulate entrepreneurial behaviour as well as innovation and internationalisation skills of students, HEI staff and SMEs. It focuses on developing and implementing a teaching module on the internationalisation of SMEs for HEI students.

The main goals of the project are to be achieved through collaborations between Higher Education Institutes (HEI) and European Small and Medium Sized Enterprises (SMEs), development and implementation of an innovative transnational teaching module on the topic of internationalisation of SMEs in Europe, the implementation of international trainings for teachers and students, multiplier events to disseminate project outputs, cross-border support to SMEs through student consultancies, an SME toolkit and recommendations for policy-makers and stakeholders.[3]

In order to stimulate entrepreneurial behaviour and build innovative and international skills of students, teachers of higher education institutions and small and medium enterprises the project is focused on the development and implementation of teaching materials (Guidance to Internationalization, Concrete steps towards Internationalization and a Virtual Teaching Manual with course descriptions), INTENSE Toolkit for SMEs, INTENSE Catalog of Policy recommendations and measurement of innovation competencies. INTENSE project will redevelop the existing INCODE Barometer that consists of three dimensions of capacities and skills:[4]

- **individual** (behaviors or skills that allow a person to innovate in the personal execution of tasks),
- **interpersonal** (individual ability to innovate through the interaction with the team and represents the behaviors or skills that make others move towards the objective) and
- **networking** (represents the behaviors and skills that enable the mutual teams to find appropriate solutions in the process of complementing tasks in cooperation with all stakeholders that are needed to internationalize SMEs)

The project lasts for three years and has two phases. The first phase represents a pilot phase and it involves six students and two small and medium-sized enterprises in each partner country. The second phase project represents full run phase and it will involve 25 students and five to six SMEs.

[3] http://intense.efos.hr/index.php/about/ - accessed 12 February 2018
[4] http://intense.efos.hr/index.php/outcomes/ - accessed 12 February 2018

Both the first and second phase of the project are an extra-curricular activity for students so their involvement means that they have moved beyond the mere formal education and have recognized extra-curricular activities as a mean to gain practical experience and develop skills that will help raise their employability. By participating in a mixed team (teams composed of Croatian and foreign students, small and medium-sized enterprises and higher education institutions) students help SMEs (both Croatian and foreign) to internationalize their business and raise awareness for the importance of internationalization in globalized work. In this way, students have the opportunity to improve their employability by developing innovativeness, proactivity and other entrepreneurial and intercultural skills. By cooperating with SMEs and local and national authorities, higher education institutions develop and promote interactive and transnational teaching methods in the field of entrepreneurship, innovative pedagogy and internationalization.

3.3. Student Association Entrepreneurs without Borders

Student Association *Entrepreneurs Without Borders* (EwoB) was founded in 2008 as a result of cooperation between Faculty of Economics in Osijek and the University of Illinois at Urbana-Champaign (UIUC). Behind the idea for establishment of this association lies a desire to develop the consulting capacity of young people through recognizing and solving the problems of SMEs. As members of EwoB students have the opportunity to work on real life projects and problems of Croatian and foreign companies. EWoB as an extra-curricular activity seeks to contribute to the promotion of entrepreneurial spirit, entrepreneurial thinking and action in all social context, development of entrepreneurial universities and collaboration with students, organizations and entrepreneurs outside of their home institutions (Oberman Peterka et. Al, 2012). Although members of the association organize a whole series of workshops, lectures and round tables, their two most significant projects are organization of the Global Entrepreneurship Week and EWoB Business Hackathon.

Global Entrepreneurship Week (GEW), as an international initiative that introduces entrepreneurship to young people, is organized every year. This event encourages young people to present their own ideas on issues that are important to society as well as to recognize self-employment as a possible career choice. For the organization of Global Entrepreneurship Week in Osijek, EWoB has received the award for the best student project of the Republic of Croatia for 2014/2015. at the Congress of Croatian Student Associations. EWOB Business Hackathon is the largest student competition at the University of Osijek, which enables students to demonstrate their knowledge, skills and competences in solving problems and applying information technology in real-life situations using an interdisciplinary approach. The EWoB Business Hackathon project won the second place for the best student project in 2016 at the Congress of Croatian Student Associations. EWoB offers young people the opportunity to connect with the communities around the world, develop business-based projects that solve local economic and social issues and to become a force for the public good working towards social change and integrating classroom learning into practice (Oberman Peterka, et al. 2012).

3.4. The role of teacher-mentors in supporting extra-curricular activities of students

According to Heriot et al. (2008, cited in Cordea, 2014) the varieties of techniques used to teach entrepreneurship are probably only limited by the imagination of the professors, the abilities and motivations of the students and the resources available to the university. Croatian higher educational system has a hard time to catch up with the demands of the labour market and the needs of young people for those skills that will increase their employability. Therefore, it might seem that the development of entrepreneurial competences of students is still mostly dependent on the first component - the imagination, will and initiative of individual professor. Professors at the Faculty of Economics in Osijek have recognized the importance of extra-curricular activities as an increasingly important way of testing the theoretical knowledge on real-life examples. In all three extra-curricular activities teachers - mentors are an essential part. In Legal-economic clinic and the INTENSE project, teachers-mentors are indirectly involved in the consultancy process, giving students a freedom to make their own decisions and create innovative solution but supporting them in case of problems which students cannot solve themselves. In the case of the student association EWoB, it may seem that the teachers, apart from their original initiative to start the association, have no other role. However, even though students alone are responsible for the performance and efficiency of their association, teachers represent important logistical and intellectual support and assistance in achieving the goals set by their association. Students include teachers-mentors as a link between business environment and academia, but also as their advisors in the process of designing and implementing various projects and activities. By supporting extracurricular activities, teachers-mentors offer students greater opportunities for acquiring knowledge, skills and competences through collaborative learning, research work, and creative, innovative and critical thinking and problem solving. This innovative pedagogical method creates the conditions for the comprehensive development of students and their better adaptation to the labour market.

4. Conclusion and recommendations for further research

Entrepreneurial education, due to the specifics of the content that should be taught is still interesting topic for researchers. Majority of researchers focused their points of interests on the outcomes, and only few turned to the curricula and the pedagogy used. Having in mind that entrepreneurial education become part of every national policy, and even European Commission recommended different teaching methods, good practice examples should be more investigated and promoted. Although it opens the question of educators role in the learning process, entrepreneurial education should provide graduates that will be ready for all the challenges that are coming from the labor market and changes in every aspect of their lives.

In this paper, there have been presented good practice examples from the Josip Juraj Strossmayer University in Osijek, faculty of Economics in Osijek. Although the role of the mentors/teacher is more motivating and influencing, the learning process already proved good results – students developed communication, leadership, negotiation and presentation skills. Through the multidisciplinary project, students got the opportunity to work with students from the Faculty of Law in Osijek, that ensured multidisciplinary approach and the whole picture.

In order to further promote examples of good practice, some data about the outcomes and employability of the students involved in the projects will be necessary.

REFERENCES

European Union (2006): ***Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning***, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32006H0962 (accessed 12 February 2018)

European Commission (2013): ***Entrepreneurship 2020 Action Plan***, https://ec.europa.eu/growth/smes/promoting-entrepreneurship/action-plan_en (accessed 13 February 2018)

European Commission (2014): ***Study on Innovation in Higher Education***, http://ec.europa.eu/education/tools/docs/study-innovation-he_en.pdf (accessed 12 February 2018)

Gibb, A. (1993): ***Enterprise culture and education understanding enterprise education and its links with small business, entrepreneurship and wider educational goals***. International small business journal, 11(3), 11-34.

Gibb, A. & Haskins, G. (2014): ***The University Of The Future An Entrepreneurial Stakeholder Learning Organisation?***, Handbook on the entrepreneurial university, 4, 25-63.

Gibb, A. (2009): ***Towards the Entrepreneurial University***, *The National Council for graduate Entrereneurship*, http://ncee.org.uk/wp-content/uploads/2017/02/towards_the_entrepreneurial_university.pdf (accessed 13 February 2018)
HEInnovate, ***The Entrepreneurial Higher Education Insitution: A review of the concept and its relevance today***, https://heinnovate.eu/intranet/tef/downloads/HEInnovate_Analytical%20paper.pdf (accessed 12 February 2018)
Jameson, J. & O'Donnell, P. (2015): ***The Entrepreneurial University: a Unifying Theme for TU4Dublin. Stream 1: Enterprise and Engagement***. Retrieved from: http://arrow.dit.ie/st1/6 (accessed 13 February 2018)
Lackéus, M. (2013): ***Developing Entrepreneurial Competencies-An Action-Based Approach and Classification in Education. Thesis for degree of the licentiate of engineering***, Chalmers University of Technology, Gothenburg, Sweden
Lackéus, M. (2015): ***Entrepreneurship in Education: What, Why, When, How. Entrepreneurship360 Background Paper, OECD***, http://www.oecd.org/cfe/leed/BGP_Entrepreneurship-in-Education.pdf (accessed 13 February 2018)
Morell, M. & Hargrave, J. (2012): ***Camus of the Future***, ARUP Foresight+Research+Innovation, http://publications.arup.com/publications/c/campus_of_the_future (accessed 12 February 2018)
Oberman Peterka, S., Koprivnjak, T., & Mezulić, P. (2015): ***Challenges of Evaluation of the Influence of Entrepreneurship Education. Economic Review***, Journal of Economics & Business/Ekonomska Revija: Casopis za Ekonomiju i Biznis, 13(2).
Oberman Peterka, S., Singer, S., & Alpeza, M. (2012): ***Poduzetničko obrazovanje–nedostajuća komponenta u stvaranju multidisciplinarnog integriranog sveučilišta***, Znanstvena konferencija Ekonomsko obrazovanje–jučer, danas, sutra, Zagreb, 279-301.
Philpott, K., Dooley, L., O'Reilly, C. and Lupton, G. (2011): ***The entrepreneurial university: Examining the underlying academic tensions***, Technovation. 31, 161 – 170.
Wilson, J., Pagano E., Henry, T. & Puckett, J. (2014): ***Five Trend to Watch in Higher Education***, The Boston Consulting Group, https://www.bcg.com/publications/2014/public-sector-five-trends-watch-higher-education.aspx (accessed 15 February 2018)
Cordea, C. (2014): ***The role of extracurricular activites and their impact on learning process***, http://steconomiceuoradea.ro/anale/volume/2014/n1/126.pdf (accessed 15 February 2018)
Oberman Peterka, S., Perić, J., Delić, A. (2012): ***Role of student association in changing the old educational paradigm***, Proceedings from the Scientific Symposium From old industries to a new entrepreneurial development structure - reality and challenges for Pforzheim and Osijek, Pforzheim, 2012, 43-54.
Oberman Peterka, S., Perić, J., Delić, A. (2016): ***Entrepreneurial education - a path towards creation of employable and competitive young people***. Practical Management, Journal of Management in Theory and Practice, Special Edition, 8 (1)
European Commission (2006): ***Oslo Agenda for Entrepreenurship Education***, file:///C:/Users/User/Downloads/oslo_agenda_final_en.pdf (accessed 15 February 2018)
European Commission (2012): ***The Budapest Agenda***, file:///C:/Users/User/Downloads/budapest_agenda_en%20(1).pdf (accessed 15 February 2018)
Hannon, P.D. (2006): ***Teaching pigeons to dance: sense and meaning in entrepreneurship education***, Education + Training, 48(5), 296-308.
Sherman, P.S., Sebora, T., Digman, L.A. (2008***): Experiental entrepreneurship in the classroom: effects of teaching methods on entrepreneurial career choice intentions***, Journal of Entrepreneurship Education, 11, 29-42.
Kolb, D.A. (1984): ***Experiental learning: Experience as the source of learning and development***, Englewoods Cliffs, Prentice –Hall, New York
Bechard, J.P., Gregoire, D. (2005): ***Entrepreneurship education research re-visited: the case of higher education***, Academy of Management Learning and Education, 4(1), 22-43.
Darkenwald, G.D., Merriam, S.B. (1982): ***Adult Education: Foundations of Practice***, harper Row Publishers, New York

Katz, J.A. (2003): ***The chronology and intellectual trajectory of American entrepreneurship education***, Journal of Business Venturing, 18(1), 283-300.
Fayolle, A., Gailly, B., Lassas-Clerc, N. (2006): ***Assessing the impact of entrepreneurship education programmes: a new methodology***, Journal of European Industrial Training, 30(9), 701-720.
Ajzen, I. (2002): ***Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior***, Journal of Applied Social Psychology, 32, 1-20.
Dilts, J.C., Fowler, S.M. (1999): ***Internship: preparing students for an entrepreneurial caree***r, Journal of Business and Entrepreneurship, 11(1), 51-63.
Johannisson, B. (1991): ***University training for entrepreneurship: a Swedish approach,*** Entrepreneurship and Regional Development, 3(1), 67-82.
Kirby D.A. (2002): ***Entrepreneurship Education: Can Business Schools Meet the Challenge?***, International Council for Small Business, 47th World Conference, San Juan, Puerto Rico, June 16-19
Kirby, D.A, (1992): ***Developing Graduate Entrepreneurs: The UK Graduate Enterprise Programme***, Entrepreneurship, Innovation and Change, 1(2), 165-175.
Olson, P.D., Bosserman, D.A. (1984): ***Attributes of the entrepreneurial type***, Business Horizons, May-June, 53-56.
Kairisto-Mertanen, L. (2013): ***Aiming at Innovation expertise***, in Lehto A., Penttila, T. (2013). Pedagocial view on innovation competences and entrepreneurship: Innovation pedagogy and other approaches, Innopeda, Turku, Finland, 7-10.

Prof. Nada Denona Bogović, Ph.D., Full Professor
Faculty of Economics, Rijeka
51000 Rijeka, Ivana Filipovića 4
Phone: 051/ 353 142
E-mail address: nada.denona.bogovic@efri.hr

Prof. Saša Drezgić, Ph.D., Professor
Faculty of Economics, Rijeka
51000 Rijeka, Ivana Filipovića 4
Phone: 051/ 353 129
E-mail address: sasa.drezgic@efri.hr

Saša Čegar, Ph.D., Postdoctoral Research Assistant
Faculty of Economics, Rijeka
51000 Rijeka, Ivana Filipovića 4
Phone: 051/ 353 120
E-mail address: sasa.cegar@efri.hr

DEMOGRAPHIC, ECONOMIC AND SOCIAL CHARACTERISTICS OF THEPOPULATION OF THE CITY OF VUKOVAR[1]

DEMOGRAFSKA, EKONOMSKA I SOCIJALNA OBILJEŽJA STANOVNIŠTVA GRADA VUKOVARA

ABSTRACT

The regional policy of the Republic of Croatia is implemented through the Law on Regional Development and several regional laws which single out those areaswhich require state intervention in terms of stimulating their faster development.One of these laws is the Law on Reconstruction and Development of the City of Vukovar from 2001, whose primary purpose was to accelerate the economic and demographic reconstruction of the City of Vukovar and to stimulate its overall development through the implementation of differentmeasures.This law, which among other things regulates the special fiscal status of the City of Vukovar, has already undergone four changes.However, it still has not managed to stop the growing socio-economic lag of the City of Vukovar behind the Republic of Croatia.Consequently, the purpose of this paper is to determine the dynamic and structural characteristics of population movements in the area of the City of Vukovar in comparison to a higher territorial levels by using methods of descriptive and comparative analysis of selected demographic, economic and social population indicators. From this aspect, the paper gives an aggregate evaluation of the success of the current system of incentive measures for demographic and economic recovery of the City of Vukovar.The aim of the paper is to indicate the restrictive characteristics of the existing demographic resources of the City of Vukovar in the context of its convergence towards the developmental average of the Republic of Croatia and, based on that, suggest a new approach to stimulate the development of the City of Vukovar through the state aid system.

Key words: *regional development, regional policy, demographic resources, City of Vukovar.*

[1]This work has been supported by the University of Rijeka under the project number 13.02.1.2.04

SAŽETAK

Uz krovni Zakon o regionalnom razvoju, regionalna politika u Republici Hrvatskoj provodi se kroz nekoliko područnih zakona temeljem kojih su izdvojena ona područja koja u smislu poticanja njihovog bržeg razvoja zahtijevaju državnu intervenciju. Jedan od tih zakona je i Zakon o obnovi i razvoju Grada Vukovara iz 2001. godine čiji je osnovni cilj bio putem različitih mjera ubrzati gospodarsku i demografsku obnovu Grada Vukovara i potaknuti njegov sveukupan razvoj.Ovaj zakon kojim je, između ostalog, reguliran i poseban fiskalni status Grada Vukovara do sada je već imao četiri izmjene, no, unatoč tome on još uvijek nije uspio zaustaviti sve veće društveno-gospodarsko zaostajanje Grada Vukovara za Republikom Hrvatskom.Sukladno tome, svrha ovog rada je temeljem primjene metoda deskriptivne i komparativne analize nad odabranim demografskim, ekonomskim i socijalnim pokazateljima stanovništva utvrditi dinamička i strukturna obilježja populacijskih kretanja na području Grada Vukovara u usporedbi s višim teritorijalnim razinama te s tog aspekta dati agregatnu ocjenu uspješnosti dosadašnjeg sustava mjera poticanja demografske i gospodarske obnove Grada Vukovara. Cilj istraživanja je ukazati na ograničavajuća obilježja postojećih demografskih resursa Grada Vukovara u kontekstu njegove konvergencije prema razvojnom prosjeku Republike Hrvatske te na osnovu toga predložiti novi pristup poticanja razvoja Grada Vukovara kroz sustav državne pomoći.

***Ključne riječi**: regionalni razvoj, regionalna politika, demografski resursi, Grad Vukovar.*

1. Introduction

As a socio-economic category, development is a multidimensional and dynamic process; so there is no simple definition and interpretation of development. From the aspect of lower and higher territorial units, development implies stimulating growth and positive structural changes in the economy and the population and improving living and working conditions through carefully planned, targeted and organised public policy action (i.e. Dang & Sui Pheng, 2014). This is why Croatian regional policy is important; it is aimed at reducing the existing development inequalities between local and regional governments in the Republic of Croatia as well as creating conditions that will enable all parts of the country to strengthen competitiveness and realise the available development potential. This especially relates to the City of Vukovar which was one of the main priorities of the Croatian regional policy due to great human losses and material damage suffered during the Homeland War. However, although the level of state intervention has been most pronounced in the City of Vukovar, there are continuous negative demographic, economic and social trends in its territory. This is why the City of Vukovar is unfortunately still classiffied as a case city.

In the process of finding appropriate solutions for socio-economic revitalisation of the City of Vukovar within the regional policy, it is among other things necessary to establish and consider specific characteristics of its population. Movement and population structure are a reflection of the current development, but also a key factor and subject to the future development of a particular area(cf. Caselli, Vallin & Wunsch 2006). This is the reason why planningof a successful development policy of the City of Vukovar requiresessential understanding of key causes and predicting the possible consequences of population trends and processes present in this area. For this reason, the authors in this paper, based on the data from official census, vital and migration statistics and the use of relevant demographic, economic and social indicators of the population analysed the basic dynamic and structural characteristics of the movement and development of the population of Vukovar.

2. General Population Movement

Observation of long-term trends in the number of inhabitants in the area of the City of Vukovar led to the conclusion that the City of Vukovar has over the past 150 years recorded overall positivepopulation trends. This is a result of the factthat the City of Vukovar until 1991 belonged to one of the richest and most developed urban areas in the continental part of the Republic of Croatia; so its economic propulsion had a positive impact on the general movement of the local population. However, a great reason for concern is the occurrence and intensity of the depopulation process of the Vukovar population in the recent period, which, according to official census statistics, started in the intercensal period 1991-2001 and has not been stopped yet(cf. Table 1).

Table 1 *Total number of inhabitants of the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia according to1857-2011 census*

Census years	City of Vukovar			Vukovarsko-Srijemska County			Republic of Croatia		
	Population	Index 1857=100	Intercensal percentage change	Population	Index 1857=100	Intercensal percentage change	Population	Index 1857=100	Intercensal percentage change
1857	8.162	100	-	86.768	100	-	2.181.499	100	-
1971	38.830	475,74	50,72	217.115	250,22	12,36	4.426.221	202,90	6,41
1981	41.959	514,08	8,06	223.919	258,07	3,13	4.601.469	210,93	3,96
1991	46.735	572,59	11,38	231.241	266,50	3,27	4.784.265	219,31	3,97
2001	31.670	388,02	-32,23	204.768	235,99	-11,45	4.437.460	203,41	-7,25
2011	27.683	339,17	-12,59	179.521	206,90	-12,33	4.284.889	196,42	-3,44

Source: Calculation of authors based on the censuses of the Republic of Croatia published on the CBS website

A drastic reduction of the total number of inhabitants in the City of Vukovar in the period from 1991 to 2001 is a direct consequence of human losses and negative migration movements caused by the Homeland War and massive destruction of infrastructure that almost completely destroyed economic base of the City. Due to the loss of human lives and forced and economic exodus of the population, Vukovar lost in 2001 a third of its population in comparisonwith 1991, which significantly degraded its demographic resources. The decreasing trend of the number of inhabitants in the City of Vukovar continued in the intercensal period 2001-2011, indicating a significantly more pronounced decade rateof reduction of the Vukovar population in relation to the state average.Between 2001 and 2011, the number of inhabitants in the City of Vukovar decreased by 12,59%, which is almost equal to the decade rateof decline in the number of inhabitants in Vukovarsko-Srijemska County, but as much as 9,15 percentage points more than the decade rate of declineof the populationat the state level. Taking into account the role of the population as one of the main factors of economic growth and development, such trends point to growing developmental gap between this part od East Croatia and the rest of the Republic of Croatia.

Observation of the structure and dynamics of the population discharge of the City of Vukovar during the intercensal period 2001-2011 led to the conclusion that it is in the phase of extreme depopulation which occurrs through simultaneous negative effects of the natural and migration component of the general population movement. This is how this city transformed from an immigration area to an extremely depopulated emigration area, which is also a critical characteristic of Vukovarsko-Srijemska County (cf. Table 2).

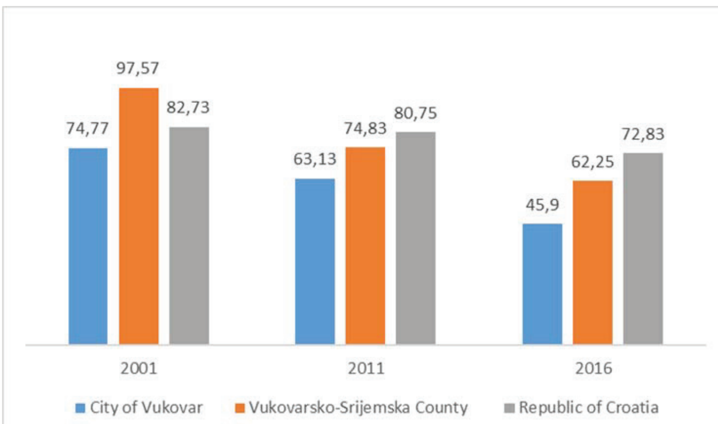
***Table 2** Mechanic and natural population movement in the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia in the intercensal period 2001-2011*

Territorial unit	**Population change 2001-2011**		
	Total change	*Natural change*	*Migration saldo*
City of Vukovar	-3.987	-1.259	-2.728
Vukovarsko-Srijemska County	-25.247	-3.625	-21.622
Republic of Croatia	-152.571	-96.310	-56.261

Source: Calculation of authors based on the official vital statistics of the Republic of Croatia and 2001 and 2011 Census published on the CBS website

Due to long-term emigration of the population of reproductive age, especially the youth, the bioreproductive potential of the population of Vukovar has been disturbed, which additionally enhanced the process of depopulation of the City of Vukovar with increasingly negative natural population dynamics. This is illustrated best by the vital index data (cf. Graph 1).

***Graph 1** Vital Index of the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia in 2001, 2011 and 2016*



Source: Compiled by authors based on official vital statistics data published on the CBS website

The comparative datapresented in Graph 1 show that the birth rate and mortality ratio has deteriorated in all the observed territorial units, and this is especially pronounced in the City of Vukovar. During the observed 15-year period, the vital index of the City of Vukovar declined by as much as 38,6%, thus reaching in 2016 the below-average value of 45,9. This means that in the City of Vukovar in 2016 there were only 46 live-birthsper 100 deaths.

It is alarming that recent data warn of acceleration of the depopulation process of the City of Vukovar (cf. Table 3).According to official estimates of the population movement, 86,9% of total decrease of Vukovar's population recorded in the previous intercensal period was reached already at the half of the intercensal period 2011-2021. This is certainly adiscouraging trend, especially because the City of Vukovar, as the administrative centre of the County, should by its nature and status be one of the main agents of demographic and economic revitalisation of this part of East Croatia.

Table 3 *Natural, migration and general movement of the population of the City of Vukovar in the period from 2011 to 2016*

Population indicators	2011	2012	2013	2014	2015	2016
Natural growth	-132	-145	-167	-156	-226	-211
Migration saldo	-107	-209	-587	-758	-347	-
Total population estimation	27.683	27.179	26.425	25.511	24.938	24.219

Source: Annual statistical reports of the CBS on demographic movements published on the CBS website

In addition to the negative general population movements, in the area of the City of Vukovar and Vukovarsko-Srijemska County in the last intercensal period there was also a significant decrease of the total number of private households.[2] Such trends further point to a destimulating impact of overall conditions and situational circumstances in the City of Vukovar and its County because of which young people are not capable or motivated to establish their own household.

3. Age and Educational Structure of the Population

With the above-average negative general population movement, the demographic regression of the City of Vukovar is also reflected in relatively unfavourable age characteristics of the population in comparison with the county and state average. According to the 2011 Census, the population of the City of Vukovar has a larger share of the old population contingent, and a smaller share of the youth contingent, while in comparison to the Republic of Croatia, it also has a smaller share of the working populationcontingent (cf. Table 4).

Table 4 *Age structure of the population of the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia according to 2011 Census*

Population contingents	City of Vukovar		Vukovarsko-Srijemska County		Republic of Croatia	
	Number	Percentage of total population (%)	Number	Percentage of total population (%)	Number	Percentage of total population (%)
Young population contingent (population aged 0-14 years)	3.872	13,99	30.451	16,96	652.428	15,22
Working population contingent (population aged 15-64 years)	18.367	66,35	118.382	65,94	2.873.828	67,10
Old population contingent (population aged 65+ years)	5.444	19,67	30.688	17,09	758.633	17,70
Total	27.683	100	179.521	100	4.284.889	100

Source: Compiled by authors based on data collected from the 2011 Census published on CBS website

Taking into account that the economic significance of age structure of the population is primarily reflected in its direct impact on workforce movement, the share of certain contingents in the age structure of Vukovar's population indicates that it is very unfavourable in the context of the future development of the local economy. Namely, apart from the fact that the City of Vukovar has a relatively smaller share of working contingent in relation to the state level; in comparison with the County and the Republic of Croatia, it has a much more significant share of the oldest age groups (55-59 and 60-64) in the working contingent. This means that, assuming *ceteris paribus*, a relatively larger part of the local population will in the current census period (2011-2021) lose their working ability according to age criterion. The problem is that, due to the critical share of the youth

[2] In 2011, compared to 2001, the number of private households in the City of Vukovar was reduced by 8,65%, and in Vukovarsko-Srijemska County by 8,78%. This is contrary to the trend at the state level where, in spite of the decline in population, there was an increase in the total number of private households by 2,82%.

contingent in the local population, this source of new workforce is currently lacking,or is not even close to compensate for the expected outflow of the population from working to old contingent throughtransition of young people into working age. Thus, if the positive migration balance does not soon increase in the Vukovar area, the proportion of working-age population in the local population will continue declining. Since working-age population is the key agent of economic activity, reduction in the share of the working contingent in the local population will also reduce real possibilities for creating new values in the local economy. Consequently, the share of supported population will increase, and thus produce an additional impact on purchasing power and standard of living of households.[3]

Another significant developmental limitation for the City of Vukovar is under-representation of highly educated population in comparison with the state average as well as the fact that its County is one of the worst counties in the Republic of Croatia regarding the level of education of the population (cf. Table 5).

Table 5 *Educational structure of the population of the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia aged 15 and over in 2011*

Fields of education	City of Vukovar		Vukovarsko-Srijemska County		Republic of Croatia	
	2011	%	2011	%	2011	%
No schooling and unfinished elementary education	1.874	7,88	15.474	10,38	345.959	9,53
Elementary education	5.181	21,76	45.156	30,29	773.489	21,29
Secondary education	13.307	55,89	74.176	49,76	1.911.815	52,63
Higher education	3.443	14,46	14.089	9,45	595.233	16,39
Unknown	6	0,03	175	0,12	5.965	0,16
Total	23.811	100	149.070	100	3.632.461	100

Source: Compiled by authors based on data collected from 2011 Census published on the CBS website

In today's circumstances, dominated by accelerated technological progress and continuous modernisation of business and economic activity in all sectors, highly educated and qualified workforce has become a key factor in overall social and economic development(cf. Thurow, 2005). Hence, local and regional governments with a relatively higher proportion of highly educated people in the working contingent also have relatively more favourable demographic resources to achieve more advanced, more successful, more productive, more competitive andlong-term stable economies. In this regard, the educational structure of the population of the City of Vukovar is even more discouraging if it is taken into account that the Republic of Croatia itself still has not yet reached the EU average in the share of highly educated population, especially the averages of more developed EU Member States.

4. The Economic Structure of the Population

The analysis of the economic structure of the population usually starts with analysing the population structure according to economic activity which implies the division of the population into two basic contingents – economically active population or workforce and economically inactive population or supported population. This analysis is important because actual working potential of the available demographic resources in an area can be estimated through the determination of relationships between individual population contingents according to the status of economic activity.[4]

[3] In this context, an unfavourable circumstance for the City of Vukovar is also that similar demographic tendencies are present in the immediate gravitational area of the City, i.e. the neighbouring local governments.
[4] *Economically active population*are all persons who are active in the labour market, i.e. persons providing a job offer for the production of goods and services, whether they are employed or unemployed. *Economically inactive population*are all persons outside the workforce, i.e. persons who were not registered as employed and unemployed

Despite the decreasingworking-age population, the City of Vukovar, relatively speaking, records above-average demographic reserves of workforce in working-age population (cf. Table 6).[5]

Table 6 *Selected economic indicators of the population for the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia*[6]

Territorial unit	Utilization rate of working-age population, year 2011	Employment rate, year 2011	Percentage of total number of supported population by categories (%), year 2011				Percentage of total number of income taxpayers by source of income (%), year 2016		
			Pensioners	Persons engaged in household duties	Students and pupils	Others	Employees	Pensioners	Craftsmen and freelancers
City of Vukovar	54,7	40,4	67,4	7,4	12,9	12,3	43,9	53,7	2,4
Vukovarsko-Srijemska County	55,2	41,3	51,9	16,9	16,8	14,4	51,3	45,0	3,7
Republic of Croatia	62,5	52,3	58,0	11,7	17,8	12,5	56,4	40,5	3,1

Source: Compiled by authors according to data from 2011 Census and Tax Administration for 2016

The utilisation rate of the working-age contingent in the City of Vukovar in 2011 was54,7%, which is by 0,5 percentage points less than the county average and by 7,8 percentage points less than the state average. Also, in the last census year there was a below-average employment rate oftotal population of 40,4% in the City of Vukovar, which is by 0,9 percentage points less than the county average and by 11,9 percentage points less than the state average. This means that in 2011 in the City of Vukovar, only 5 out of 10 working-age residents were economically active, and 4 out of 10 economically active residents were employed. Although this can, in one aspect, be interpreted as a positive developmental circumstance,[7]it is important to point out that working-age population is most inclined to permanently leave the City of Vukovar. The reason is the growing economic lag of the City, and consequently, fewer possibilities and opportunities for employment in the local economy.

The unfavourable economic characteristics of the Vukovar population are also reflected in the fact that workforce is burdened by supported population. According to the data on the structure of supported population presented in Table 6, the City of Vukovar in 2011 recorded above-average representation of pensioners in the contingent of supported population in relation to the national and county level. This points to the problem of growing impoverishment of the population of Vukovar, which is further confirmed by the Tax Administration data on the number of taxpayers according to individual sources of income for 2016 (cf. Table 6).Thus, it is a paradox that as many as 53,7% of the total number of Vukovar residents earning income from workare pensioners. This means that the mentioned contingent of supported population *de facto*became the one that supports, which is a result of many years of chronic lack of jobs in the local economy, i.e. fewer opportunities to earn income on the basis ofself-employment and employment. The social implications of this are discussed in more detail below.

---

during the reference period, including persons below the minimum age determined for measuring the economically active population.

[5]As a result of the decrease of the Vukovar population recorded in the intercensal period 2001-2011, the total number of working-age inhabitants decreased by 16,4%

[6]*Utilization rate of working-age population*is calculated as the share of workforce or economically active contingent in the working-age population or working contingent. *Employment rate* is calculated as the proportion of the total number of employees in the working-age population or the working contingent.

[7] This only referrs to the assumption of expectations of economic expansion and a sudden rise in demand for workforce in the following years. In this respect, for territorial units that have a very low population influx rate into working-age population, it is positive that they have relatively large unused demographic workforce resources.

5. Social Indicators of the Population

When planning public policies aimed at stimulating the development of local or regional governments, it is very important to take into consideration demographic and economic trends as well asbroader social needs, i.e. to consider demographic and economic changes in the context of wealth and quality of people's lives in an area. This means that encouraging growth and positive structural changes in the economy and the population through planned, targeted and organised public policy actionmust be in the function of raising the overall standard of living. This includes, for example, secured access to the necessary resources for life, education, and health and information services, followed by the level of income achieved and the existence of opportunities to earn income, clean and healthy environment, improved security and housing quality, etc. Although, depending on the individual aspect of social development, there is a great number of indicators covering different thematic areas within the social dimension of development, the subject of analysis here are only the basic factors of purchasing power of the population, but based on which general social trends can also be well-defined.

The average indicators of the basic factors determining the purchasing power of the population indicate that there is a significant degree of social differentiation in this aspect in the City of Vukovar compared to the Republic of Croatia (cf. Table 7).

***Table** 7 Total available income, average monthly earnings of employees and average pensions in the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia in 2016*

Territorial unit	Available income per capita	Structure of available income by sources of income (%)				Average monthly earnings of employees	Average monthly pensions
		Employees	*Pensioners*	*Craftsmen and freelancers*	*Other*		
City of Vukovar	30.804,10	48,1	42,3	4,7	4,9	3.575,70	2.721,50
Vukovarsko-Srijemska County	23.705,00	58,5	31,1	6,5	4	3.550,60	2.283,40
Republic of Croatia	34.249,50	64,9	23,3	4	7,8	4.382,70	2.436,10

Source: Compiled by authors based on Tax Administration data for 2016

According to the Tax Administration data and the official estimate of the number of inhabitants, total available income per capita in the City of Vukovar was in 2016 by 10,1% lower than the state average and almost 30% higher than the county average. The significant difference in the level of income per capita between the City and the County can be explained by the fact that their economies have been extremely deprived for many years, with a relatively small economic power. This is why during the period of the crisis in the national economy (2009-2015), there was an above-average decline in employment in both the City and County, and consequently decline in total income. However, due to the fact that the City of Vukovar has, in relation to county and state level, on the one hand, above-average share of pensioners in the population contingent which earns income from work, above-average share of pensions in total income and above-average pension level, and on the other hand records faster employment decline and decrease in the number of inhabitants, it has, relatively speaking, managed to keep the level of income per capita that is closer to the state average. Nevertheless, the structure of available income according to sources of income shows how much the social security of the population of Vukovar is actually endangered. In 2016, pensions in the City of Vukovar accounted for as much as 42,3% of the total available income, while at the state level, the share of this source in total income was by 19 percentage points lower. This further confirms the ealier argument that older population took on the role of supporter in the

City of Vukovar, which clearly indicates the severity of living and working conditions in the City of Vukovar.

If average monthly earnings and pensions presented in Table 6 are compared at the local and state level, it is evident that employees living in the City of Vukovar have18,4% lower earnings than the state average, while pensioners have 11,7% higher pensions than the state average. However, in the context of the above explanations, it is important to point out that above-average pensions do not represent any advantage for the City of Vukovar in terms of the existing economic or purchasing power of its inhabitants. The reason for this is that pensioners are the largest part of income-earning contingent. Generally, the population of Vukovar has below-average consumer capacities that will be further reduced in the following periods if the outflow of the workforce from the City continues.

6. Conclusion and Guidelines for Stimulating the Development of the City of Vukovar

All indicators of general movement and structural characteristics of the Vukovar population covered by the analysis clearly indicate the existence of extremely negative population trends that could, if they continue, soon become a critical factor for further developmental lag of the City of Vukovar. Given that in the City of Vukovar there is an increasing deficit of demographic resources in terms of age, education, qualification, economic activity, and purchasing power of the workforce, it is the assessment of the authors that the current system of incentives has not achieved satisfactory results in terms of demographic reconstruction and development of the City of Vukovar.It is therefore necessary to conduct an urgent review and adjustment of the state measures and support programs for the development of the City of Vukovar to stop the demographic regression in its territory as soon as possible. It is important to point out that in the case of the City of Vukovar there is a close link between demographic and economic movements; therefore, exclusive focus on the implementation of state measures of stimulative pronataland immigration policy will not result in desired demographic effects unless they are integrated and aligned with economic measures. In this respect, particularly important measures and activities for the local population are those aimed at increasing economic involvement of all working-age residents. This is why the authors recommend application of a conceptual approach in the development of a new program of state measures to stimulate the development of the City of Vukovar that will in a relatively short time horizon enable the creation of new jobs and a significant increase in employment in the local economy.

REFERENCES

Caselli, G., Vallin, J. & Wunsch, G. (2006): ***Demography analysis and synthesis***, ***A treatise in demography***, Amsterdam, Boston, Elsevier/Academic Press, 4 volumes

Census 2011, https://www.dzs.hr/Eng/censuses/census2011/censuslogo.htm(accessed15 January 2018)

Census 2001, https://www.dzs.hr/Eng/censuses/Census2001/census.htm(accessed15 January 2018)

Dang, G. & Sui Pheng, L. (2014): ***Theories of Economic Development***, Infrastructure Investments in Developing Economies: The case of Vietnam, Singapore: Springer, pp.11-26

Natural Change in Population in the Republic of Croatia, 2016, https://www.dzs.hr/Hrv_Eng/publication/2017/07-01-01_01_2017.htm(accessed25January 2018)

Natural Change in Population in the Republic of Croatia, 2011, https://www.dzs.hr/Hrv_Eng/publication/2012/07-01-01_01_2012.htm(accessed25January 2018)

Population PC-Axis Database, https://www.dzs.hr/Eng/DBHomepages/Population/Population .htm, (accessed10 January 2018)

The Republic of Croatia, Tax Administration, 2016

Thurow, L.C (2005): ***Fortune Favors the Bold: What We Must Do to Build a New and Lasting Global Prosperity***, New York, NY: HarperCollins

Towns in Statistics, https://www.dzs.hr/Hrv_Eng/Pokazatelji/Gradovi%20u%20statistici.xlsx(accessed20 January 2018)

Vital statistics of the Republic of Croatia, 2001, https://www.dzs.hr/Eng/publication/2002/7-1-1e2002.htm(accessed 25 January 2018)

Branimir Dukić, Full Professor
Faculty of Economics in Osijek
Osijek, Trg Ljudevita Gaja 7
Phone: 091 22 44 028Fax: 031 211-604
E-mail address:bdukic@efos.hr

Goran Kozina, Associate Professor
University North
Varaždin, 104. brigade 1
Phone: 042493-338Fax: 042493-336
E-mail address: gokozina@unin.hr

Stojanka Dukić, Assistant Professor
duxMission d.o.o. Osijek
Osijek, Dalmatinska 21
Phone: 098 169 84 55Fax: 031 303-090
E-mail address:dux-mission@os.t-com.hr

A MODEL OF HIGHER EDUCATION IN ECONOMICS FOR THE DIGITAL AGE

MODEL VISOKOŠKOLSKOG EKONOMSKOG OBRAZOVANJA ZA POTREBE DIGITALNOG DOBA

ABSTRACT

In the past few years one can observe the development of public perception regarding the excess of highly educated workforce in the labour market of the Republic of Croatia. The excess refers to social sciences, in particular the field of economics. It should be noted that the notion of education in economics in the Republic of Croatia covers both macroeconomic and microeconomic areas. These programmes are carried out at business schools, faculties and departments of economics of Croatian universities. Along with this misperception, the general public disregards the fact that in practice many business operation tasks are frequently performed by people with non-economic backgrounds. One of the reasons for this situation is the failure of professional organisations to campaign for legal protection of their profession through well-defined educational frameworks and making the membership in the Chamber of Economists a precondition for working as an economist. On the other hand, there is a wide-spread view that the system of education in economics is of poor quality, and therefore graduates are incapable of performing a wide range of tasks in the economic/business domain. Looking only at higher education, this general view is reflected in the situation where other higher education institutions have started teaching traditionally economic courses (e.g. "Agricultural Economics" at faculties of agriculture or "Financial and Actuarial Mathematics" at mathematics departments). In addition to these direct encroachments, there are also indirect ones, such as when faculties of electrical engineering in their computer science programmes educate information managers. In the modern digital age, knowledge is more than ever the primary business resource. In these circumstances, the question is how to protect the dignity of both the economic profession and higher education in economics in the Republic of Croatia. It seems that the best and most urgently needed solution would be to change the quality *paradigm of higher education in economics in the Republic of Croatia. To achieve this, we must strive to design and build a high-quality system of education in economics that will be capable of providing optimum education for the new digital age.*

Keywords: *digital age, knowledge, higher education in economics, ontology, educational model.*

SAŽETAK

Posljednjih je godina u javnosti generirana percepcija o značajnom višku visokoobrazovane radne snage na tržištu rada Republike Hrvatske iz područja društvenih znanosti, posebice one radne snage koja je ekonomski obrazovana. U tom smislu, treba imati u vidu, kako se pod pojmom ekonomskog obrazovanja u Republici Hrvatskoj podrazumijeva i makroekonomsko i mikroekonomsko obrazovanje koje se obavlja na visokim poslovnim školama te na ekonomskim fakultetima i odjelima pri sveučilištima u Republici Hrvatskoj. Istodobno se zanemaruje činjenica kako masu poslova, posebice iz domene poslovanja, u pragmatičnim uvjetima obavlja radna snaga drugih profila, odnosno radna snaga s izvanekonomskim zanimanjima. Razlog tome leži djelomično i u činjenici što je ekonomska struka u Republici Hrvatskoj slabo organizirana i nije se izborila za zakonsku zaštitu vlastitog područja djelovanja kroz definirane obvezne obrazovne okvire i obvezu članstva za ekonomska radna mjesta u komori ekonomista, no s druge strane razlog tome je i prisutna opća javna percepcija kako je sustav ekonomskog obrazovanja loš, te stoga veliki broj poslova koji su u domeni ekonomske struke ekonomisti nisu u stanju obavljati. Na obrazovnoj je razini najočitiji rezultat toga općeg stava prodor drugih visokoškolskih ustanova u područja koja su tradicionalno bila u domeni ekonomskog obrazovanja (npr. „Ekonomika poljoprivrede“ na poljoprivrednim fakultetima, „Financijska i aktuarska matematika“ pri matematici i slično). Osim ovih direktnih miješanja, postoji i značajan broj indirektnih upliva u područje ekonomske struke (npr. elektrotehnički fakulteti pod smjerovima računalstva obrazuju informacijske menadžere). U današnjim uvjetima života, gdje kroz digitalno doba znanje postaje primaran poslovni resurs, postavlja se pitanje kako zaštiti dignitet ekonomske struke i visokoškolskog ekonomskog obrazovanja u Republici Hrvatskoj. Kao primarno rješenje tog problema nameće se potreba promjene paradigmi kvalitete visokoškolskogekonomskog obrazovanja u Republici Hrvatskoj. To je jedino moguće kroz izgradnju visoko kvalitetnog sustava ekonomskog obrazovanja koji će optimalno obrazovati ljudske potencijale za novo digitalno doba.

Ključne riječi:*digitalno doba, znanje, visokoškolsko ekonomsko obrazovanje, ontologija, obrazovni model*

1. Introduction

The education system in the Republic of Croatia has received a great deal of public attention in the last few years. Although professionals who have received their education in Croatia are accepted in labour markets around the world, policy makers and the society at large agree that Croatian education system needs reform. In the context of secondary and tertiary education this means that there is a need to increase the number of natural science graduates and reduce the number of social science graduates. To justify this claim, it is argued that a large number of individuals with social science backgrounds are unemployed, while at the same time the background of persons occupying workplaces in the field of social sciences is not considered. Namely, natural sciences have not only encroached upon the field of social sciences, when it comes to workplaces, but have done the same in the field of education. For example, a course in “Agricultural Economics” is delivered at agricultural faculties, while a course in “Financial and Actuarial Mathematics” and similar courses are delivered at mathematics faculties. It should be mentioned that natural sciences have appropriated the field of information science from the domain of social sciences by categorising it under computer science. Economics is particularly at risk in this sense, as it is heavily encroached on by natural sciences. In the Republic of Croatia, the education in the fields of business/economics includes the study of both macroeconomic and microeconomic systems.

The described situation is partly a result of the fact that only a small number of professions in the business/economic domain is legally protected in the Republic of Croatia (e.g. a professional auditor), as well as the fact that the quality of education in the field of business/economics in the Republic of Croatia has beenfalling noticeably, especially after the liberalization of the education system and the introduction of private business schools. In order for education in the field of business/economics to secure its area of interest and protect itself from being further depreciated, it is necessary to make significant changes, primarily in terms of preparing the education system for the new digital age, mainly through the adoption of curricula which will address the actual labour market needs for economic knowledge and skills. It is therefore necessary to explore the needs for key economic knowledge and skills and to propose a general model of education in the field of business/economics which, in terms of its content and duration, needs to respond to the needs of the ongoing transition from the industrial to the digital age. Thus, the focus of the research was on developing a model of higher education in the field of business/economics in Eastern Croatia which will provide for the needs of the digital and the hybrid era.

2. Research methodology

As the transition to the digital era is progressing, knowledge is becoming the primary business resource. While in the industrial age, the competitive advantage used to be gained through the physical characteristics of the workforce, today, in the emerging digital age, competitive advantage is brought by knowledge, creativity and innovativecapacity of the workforce. Given this fact, higher education in the field of business/economics should provide the labour market with highly-educated, creative and innovative human resources. In the transition, i.e. the hybrid period, until a highly-digitalised society and economy have developed, science is required to explore and design an educational model that should be used as the basis for public consultation and creating the final model of optimum higher education both for the current hybrid as well as for the future digital era. This is of particular interest to the devalued education in the field of business/economics in the Republic of Croatia.

In view of the above, a research study was carried out whose main objective was to explore and design the initial model of higher education in eastern Croatia primarily for the needs of the transition period, i.e. the hybrid age, but also for the future digital age. In order to learn more about the needs in terms of economic knowledge and skills, extensive research has been carried out, both with business experts and students. Based on the obtained insights, the initial model of higher education in economics was designed for Eastern Croatia. The model contains the principles of functioning of the higher education system in the field of business/economics, as well as the preliminary framework for course content in the form of a list of courses and their distribution across study years. A number of scientific methods such as deduction, induction, interview, generalization, abstraction, causative deduction, systematic analysis and synthesis, analogy, descriptive modelling, etc. have been used in the research. In addition, a review of recent literature and web sites of higher education institutions in Croatia and abroad has been conducted to collect information relating to the knowledge needed for the hybrid and the digital age and gain insights into possible solutions to the identified problem. Due to paper length constraints, only theoretical considerations and a descriptive model of higher education in economics for eastern Croatia are presented in this paper.

3. Research results

The initial model of higher education in the field of business/economics for the hybrid and the digital era has the task of setting up a platform for developing an effective and optimum model of education that will produce, as soon as possible, the human resources capable of satisfying the needs of the labour market in the hybrid and the digital era. The terms digital age and digital society are defined in the Digital Agenda for Europe 2020. “Launched in May 2010, the digital agenda for Europe is aimed at boosting Europe’s economy by delivering sustainable economic and social benefits from a digital single market.”(Digital agenda for Europe, 2014, 3) “The Digital Agenda presented by the European Commission forms one of the seven pillars of the Europe 2020 Strategy which sets objectives for the growth of the European Union (EU) by 2020. The Digital Agenda proposes to better exploit the potential of Information and Communication Technologies (ICTs) in order to foster innovation, economic growth and progress.” (Europe 2020 Strategy, n.d.) What makes the new digital age special is its potential for growth: (Digital Agenda for Europe, 2014, 3)

- The Internet economy creates five jobs for every two ‘offline’ jobs lost.
- The EU digital economy is growing at 12% each year and is now bigger than the Belgian national economy.
- There are more mobile phone subscriptions in the EU than people.
- There are 7 million jobs in the ICT sector in Europe.
- It is estimated that half of productivity growth derives from investment in ICT.

However, major social changes have led to the problem of the transition period caused by the so-called generation gap: “The term “generation gap” describes the sociological and psychological differences between people belonging to different generations: differences in values, lifestyle, attitude, even opportunities. Sociologists differentiate between three generations: Baby Boomers (born between 1946 and 1964), Generation X (1965-1984), and Millennials (also known as Generation Y, 1985-2010). The biggest gap exists between Millennials and their predecessors. Millennials grew up in a time where everything they needed to know or wanted to know was at their fingertips thanks to the advancement of technology. This innovative need to know, want, and do more led Millennials to obtain a skill set that is infinitely scalable compared to previous generations, mostly in terms of the ability to use technology efficiently and absorb information rapidly. However, what they lack most is what their predecessors abundantly have: experience.” (Mind the Gap!, 2016)Although, according to the describedgeneration differentiation, the last gap existed in the period 1985-2010, it is still largely present in the Republic of Croatia due to a series of political and socio-economic factors. An important reason for the existence of this gap in the business domain is the insufficiently fast transformation of the education system that still primarily produces human resources for the industrial age. In addition to the changes in terms of content, the fundamental change needed fortransition to the digital age is the application of new concepts in the implementation of the educational model, which refers primarily to the concept of e-Learning. According to Aagarajan and Wiselin Jiji: “E-learning is essentially the computer and network enabled transfer of skills and knowledge. E-learning refers to using electronic applications and processes to learn. E-learning applications and processes include Web-based learning, computer-based learning, virtual classrooms and digital collaboration.ContentisdeliveredviatheInternet, intranet/extranet,audioorvideotape,satelliteTV,andCD-ROM.It is used by the educational Institutions to enhance and support the class room teaching and offering courses to a larger population of learners across the Globe. It can be self-paced or instructor led and includes media in the form of text, image, animation, streaming video and audio."(Aagarajan, Wiselin Jiji, 2010, 37).Some of the advantages of e-learning are (Arkorful, Abaidoo, 2014, 401):

1. It is flexible when issues of time and place are taken into consideration. Every student has the luxury of choosing the place and timethat suits him/her.
2. E-learning enhances the efficacy of knowledge and qualifications via ease of access to a huge amount of information.
3. It is able to provide opportunities for relations between learners by the use of discussion forums.
4. E-learning is cost effective in the sense that there is no need for the students or learners to travel.It is also costeffectiveinthesensethatitoffersopportunitiesforlearningfor maximum number of learners with no need for many buildings.
5. E-learning always takes into consideration the individual learners differences.Some learners, for instance prefer to concentrate on certain parts of the course, while others are prepared to review the entire course.
6. E-learning helps compensate for scarcities of academic staff, including instructors or teachers as well as facilitators, lab technicians etc.
7. The use of e-Learning allows self-pacing. For instance the asynchronous way permits each studenttostudyathisorherownpaceandspeedwhethersloworquick.It therefore increases satisfaction and decreases stress.

According to the new model of higher education in economics, teaching is planned to be delivered in two ways:

- usingtraditional teaching methods (face-to-face) and
- by means of electronic teaching, i.e. distance education.

Both instruction methods can be applied in all course types. However, in order to harmonize and standardize the relationship between face-to-face and electronic teaching, it is necessary to make certain changes in the former, in particular relating to exams. In this context, standardized testing should be introduced whereby all written exams would be converted from the current paper format to computer-based testing and administered using a single application or platform. Exams would be administered mainly online, i.e. electronically. Students who are not satisfied with their written exam results would be given the option of an oral examination that would be administered either face-to-face or through video conferencing.

The model of higher education in the fields of business/economics comprises the following subsystems:

1. Subsystem of university studies
2. Subsystem of professional studies
3. Subsystem of lifelong learning.

Unlike the previous practice in the subsystems of university studies and professional studies, the new modelincludes:

1. significant differentiation between the university studies and the professional studies;
2. greater integration of undergraduate studies both in university and professional studies;
3. modular teaching whereby students are offered a larger number of professions to choose from as opposed to the current orientation towards elective courses and a choice between few differentiated professions;
4. significant increase in the quality of studies.

The model defines university study programmes as "the study programmes in Economics, Business Economics and Informatics", and professional study programmes as "Business Administration

Schools". The differences between the curricula of the university and professional study programmes can be illustrated with the proposed list of courses in university and professional studies given in Tables 1 to 4. Table 1 contains the proposed list of undergraduate university study programmes with a list of courses for the four modules (Regional Economy, Finance, Marketing and Business Informatics). In the case of Eastern Croatia, in addition to the mentioned modules, it would be useful to deliver at least the following modules: International Economy, Entrepreneurship and Management, Tourism, Agrarian Business, and Commerce and Logistics.

***Table 1** List of undergraduate university study programme courses*

UNDERGRADUATE STUDIES			
1. YEAR			
1	MICROECONOMICS	1	MACROECONOMICS
2	FOUNDATIONS OF ECONOMIC THEORY	2	TECHNOLOGY OF BUSINESS OPERATIONS
3	BUSINESSMATHEMATICS	3	TECHNOLOGY AND PRODUCT KNOWLEDGE
4	BUSINESSINFORMATICS	4	FOUNDATIONS OF STATISTICS
5	INTRODUCTION TO RESEARCH METHODOLOGY	5	BUSINESS LAW
6	BUSINESS FOREIGN LANGUAGE1	6	BUSINESS FOREIGN LANGUAGE2
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
2. YEAR			
1	SOCIOLOGY	1	DIGITAL ECONOMY
2	CROATIAN ECONOMY	2	MANAGEMENT
3	FOUNDATIONS OF ACCOUNTING	3	MARKETING
4	ELECTRONIC BUSINESS OPERATIONS	4	BUSINESS FINANCES
5	ECONOMICS OF RETAIL AND WHOLESALE ENTERPRISES	5	LOGISTICS
6	ENTREPRENEURSHIPANDBUSINESS POLICY	6	BUSINESS INFORMATION SYSTEMS
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
3. YEAR			
1	INTERNATIONAL ECONOMICS	1	ECONOMIC POLICY
2	BUSINESS DECISION MAKING	2	MODULE COURSES
3	QUALITY MANAGEMENT	3	
4	PUBLIC FINANCES	4	
5	HUMAN RESOURCES	5	
6	BUSINESS INVESTMENTS	6	FINAL EXAM
MODULE COURSES			
	REGIONAL ECONOMICS		**FINANCES**
1	REGIONAL POLICY	1	FINANCIALACCOUNTING
2	INTERSECTORAL ANALYSIS	2	FINANCIAL MARKETS AND INSTITUTIONS
3	BUDGET ACCOUNTING	3	FINANCIALMANAGEMENT
4	SOCIALACCOUNTING	4	FINANCIAL LAW
	MARKETING		**BUSINESS INFORMATICS**
1	FINANCIALACCOUNTING	1	FINANCIALACCOUNTING
2	STRATEGIC MARKETING	2	INFORMATION RESOURCES MANAGEMENT
3	MARKETING IN SPECIAL AREAS	3	INTRODUCTION TO ALGORITHMS AND PROGRAMMING
4	DIGITAL MARKETING	4	BUSINESSINTELLIGENCE
	MANAGEMENT		**ENTREPRENEURSHIP**
1	FINANCIALACCOUNTING	1	FINANCIALACCOUNTING
2	STRATEGICMANAGEMENT	2	ENTREPRENEURIAL STRATEGIES
3	CHANGE MANAGEMENT	3	FINANCING BUSINESS VENTURES
4	PRODUCT AND SERVICE POLICY	4	ENTREPRENEURIAL SKILLS
	BUSINESS INFORMATICS		**TOURISM**
1	FINANCIALACCOUNTING	1	FINANCIALACCOUNTING
2	INFORMATION RESOURCES MANAGEMENT	2	HOSPITALITY INDUSTRY
3	INTRODUCTION TO ALGORITHMS AND PROGRAMMING	3	DESTINATIONMANAGEMENT
4	BUSINESSINTELLIGENCE	4	MARKETING IN TOURISM
	COMMERCE AND LOGISTICS		**AGRARIAN BUSINESS**
1	FINANCIALACCOUNTING	1	SOLE TRADERACCOUNTING
2	WHOLESALE TRADE OPERATIONS	2	ENTREPRENEURSHIPIN AGRICULTURE
3	RETAIL TRADE OPERATIONS	3	AGRARIAN MARKETING
4	NEGOTIATION AND CONTRACTING SKILLS	4	AGRICULTURAL PRODUCTS MARKET

Source: Authors

The proposed list of graduate university study programme courses for the two specialisations is given in Table 2.

Table 2 *List of graduate university study programme courses*

GRADUATE STUDIES			
1. YEAR			
1	RESEARCH METHODOLOGY	1	MATHEMATICAL ANALYSIS
2	COMMUNICATION SKILLS	2	ERP SYSTEMS
3	STATISTICAL RESEARCH	3	BUSINESS ANALYSIS AND AUDIT
4	KNOWLEDGE MANAGEMENT	4	INTERACTIONS WITH STATE AND PUBLIC SERVICES
5	MODULE COURSES	5	MODULE COURSES
6		6	
2. YEAR			
1	MODULE COURSES	1	RESEARCH PROJECT
2		2	INTERNSHIP
3		3	FINAL PAPER
4			
5			
6	FINAL EXAM		
MODULE COURSES			
MARKETING MANAGEMENT			
	SEMESTER I.		*SEMESTER II.*
1	MARKET RESEARCH	1	MARKET COMMUNICATIONS
2	PRODUCT AND SERVICE POLICY	2	PRODUCT DISTRIBUTION
	SEMESTER III.		
1	INTERNATIONAL MARKETING		
2	MOBILE MARKETING		
3	ELECTRONIC MARKETING		
4	MARKETING DECISION MAKING		
5	CRM		
INFORMATIONMANAGEMENT			
	SEMESTER I.		*SEMESTER II.*
1	DATABASES AND BUSINESS PROCESSES	1	BUSINESSINTELLIGENCE
2	INFORMATION SYSTEM MODELLING	2	DEVELOPMENT OF BUSINESS APPLICATIONS
	SEMESTER III.		
1	PROJECT MANAGEMENT		
2	BUSINESS SIMULATIONS		
3	DATA MINING		
4	DEVELOPMENT OF MOBILE AND WEB APPLICATIONS		
5	CRM		

Source: Authors

The proposed list of undergraduate professional study programme courses is given in Table 3.

Table 3 *List of undergraduate professional study programme courses*

UNDERGRADUATE STUDIES			
1. YEAR			
1	FOUNDATIONS OF ECONOMIC THEORY	1	ECONOMIC SYSTEM OF THE REPUBLIC OF CROATIA
2	BUSINESS ORGANISATION	2	PRODUCT KNOWLEDGE
3	BUSINESS STATISTICS	3	ECONOMIC RESEARCH
4	TOOLS FOR ADMINISTRATIVE TASKS	4	PRACTICAL BUSINESS APPLICATIONS
5	BUSINESS STATISTICS	5	UNDERSTANDING BUSINESS LEGISLATION
6	BUSINESS FOREIGN LANGUAGE1	6	BUSINESS FOREIGN LANGUAGE2
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
2. YEAR			
1	BUSINESS ECONOMICS	1	ENTREPRENEURIAL SKILLS FOR SMALL BUSINESS
2	PURCHASING	2	BUSINESS PROTOCOL AND ETIQUETTE
3	WAREHOUSING	3	FIXED ASSETS ACCOUNTING
4	SALES	4	OTHER AUXILIARY ACCOUNTING AREAS
5	PRODUCTION AND SALES CALCULATIONS	5	PAYMENT TRANSACTIONS AND COLLECTION OF RECEIVABLES
6	BUSINESS CORRESPONDENCE AND COMMUNICATION	6	ECONOMIC ACCOUNTS
	PHYSICAL EDUCATION		PHYSICAL EDUCATION

3. YEAR			
1	PRINCIPLES OF SIMPLE AND DOUBLE ACCOUNTING	1	INTERNSHIP
2	PERSONNEL AND PAYROLL ACCOUNTING	2	SEMINAR PAPER
3	LOGISTICS OPERATIONS	3	FINAL EXAM
4	TAX ACCOUNTING AND TAX RETURN		
5	ELECTRONIC SERVICES		
6	BUSINESS PLANNING		

Source: Authors

The proposed list of graduate university study programme courses for the two specialisations is given in Table 4. In addition to the above-mentioned specialisations, there is room for specialisations in, for instance, Electronic Business, Income Business, Non-profit Sector Business, Banking Business, Entrepreneurial Business, Public Institutions Business, Logistics Business, Business of Media, etc.

Table 4 *List of graduate university study programme courses*

GRADUATE STUDIES			
1. YEAR			
1	MANAGEMENT	1	PROGRAMME COURSES
2	DEVELOPING AN INVESTMENT PROGRAMME	2	
3	INTRODUCTION TO INTERNATIONAL BUSINESS OPERATIONS	3	
4	DISTINCTIVENESS OF MARKETS OF DIFFERENT PRODUCTS	4	
5	ADMINISTRATIVE PROCEDURES	5	
6	SEMINAR PAPER	6	
2. YEAR			
1	PUBLIC PROCUREMENT	1	INTERNSHIP
2	COMPLAINTS MANAGEMENT	2	FINAL PAPER
3	CLIENT INTERACTION		
4	ANALYSIS AND CONTROL OF BUSINESS REPORTS		
5	SEMINAR PAPER		
6	FINAL EXAM		
MODULE COURSES			
	ACCOUNTING		**COMMERCE**
1	SOLE TRADERACCOUNTING	1	WHOLESALE TRADE OPERATIONS
2	ENTREPRENEURIAL ACCOUNTING	2	RETAIL TRADE OPERATIONS
3	BUDGETACCOUNTING	3	AGENCY OPERATIONS
4	ACCOUNTINGOF NON-PROFIT ORGANISATIONS	4	ELECTRONIC COMMERCE
5	PERIODICAL AND ANNUAL REPORTS	5	DISTRIBUTION MANAGEMENT
6	DOCUMENTS MANAGEMENT	6	DOCUMENTS MANAGEMENT

Source: Authors

Although the names of the courses listed in the four tables do not reflect the digital dimension of the model, it is interpolated in the content of the courses. As the transition from the physical to the digital age progresses, the course content will change from defining the physical business operations to describing business operations in the digital environment. Due to paper length constraints, further details could not be provided in this paper.

4. Conclusions

The designed initial model of higher education in the field of business/economics for the hybrid and the digital era represents a platform for developing efficient and optimum higher education in economics in Croatia as a whole as well as inEastern Croatia. One of the key features of this model is that it takes into account the current needs of the hybrid era and defines the process and structural framework for education of economists capable of responding to the challenges of the new era and ready for employment at different levels of responsibility. The model clearly differentiates university study programmes from professional study programmes by putting the focus on knowledge in the former and on skills in the latter. This differentiation is exemplified by the way internships are undertaken at a graduate level. According to the proposed model, students enrolled in the professional study programmes are placed with companies, while students enrolled in the research study programmes do their internships in projects conducted by higher education institutions. Furthermore, undergraduate study programmes would be delivered as integrated study programmes, and the research study programmes would have a modular structure in the last semester leading to the specialisation at a graduate level. The graduate level is characterized by a series of modules, i.e. specializations. This approach increases the number of professions students can choose from, thus better preparing them for the work they will perform in the future. It is also important to emphasize that the quality of studying can be enhanced not only by improving the structure and processes, but also by improving the input. Therefore, the model proposes that the requirement for research study programmes be successful completion of the A level of secondary school leaving examination, while the B level of secondary school leaving examination should remain to be the requirement for the professional studies.

Given that this project is still in its conceptual phase, further research should focus on developing concrete curricula for higher education in economics, especially in Eastern Croatia. As the viability of the presented model depends on the rate of transformation of Eastern Croatia and successful transition from the physical to the digital age, further research should be conducted on the subsystem of lifelong learning whose primary objective is to provide the working, i.e. active population with new knowledge and skills. Hence, the initial model of higher education for the hybrid and the digital era identifies a series of research problems, but also defines a platform for developing optimum higher education in economics in the Republic of Croatia as a whole as well as in Eastern Croatia.

REFERENCES

Arkorful, V., Abaidoo, G. (2014):***The role of e-learning, the advantages and disadvantages of its adoption inHigher Education***, International Journal of Education and Research, Vol. 2 No. 12.
Aagarajan, P, Wiselin Jiji, G. (2010):***Online Educational System (e-learning), International Journal u-and e- Service***, Science and TechnologyService, Science and Technology Vol. 3, No. 4.
Digital agenda for Europe (2014): European Commission, Directorate-General for Communication-Citizens information, Brussels
Europe 2020 strategy (n.d.):https://ec.europa.eu/digital-single-market/en/europe-2020-strategy (accessed on 2 February 2018)
Davidson, A. (2016):***Digital Economy Agenda***, Commerce Departmenthttps://www.nist.gov/sites/default/files/documents/director/vcat/Davidson_VCAT-2-2016_post.pdf(accessed on 14 February 2018)
Digital Economy, https://www.commerce.gov/tags/digital-economy(accessed on 8 February 2018)
Ekonomski fakultet Zagreb (n.d.):http://www.efzg.unizg.hr/default.aspx?id=9276(accessed on 4 February 2018)
Ekonomski fakultet Rijeka (n.d.):https://www.efri.uniri.hr/hr/studijski_programi/12_52(accessed on 6 February 2018)
Ekonomski fakultet Split (n.d.):https://www.efst.unist.hr/studiranje/poslijediplomski/studijski-programi(accessed on 6 February 2018)
Ekonomski fakultet u Osijeku(n.d.):http://www.efos.unios.hr/ishodi-ucenja/(accessed on 1 February 2018)
EOI Business School(n.d.):http://www.best-masters.com/ranking-master-e-business/executive-master-in-digital-economy-and-creative-industries-eoi-business-school.html(accessed on 4 February 2018)

Fakultet računalstva i elektrotehnike Zagreb
(n.d.):https://www.fer.unizg.hr/studiji/preddiplomski_studij/eit(accessed on 10 February 2018)
Sturgeon, T.J., Fredriksson, T., Korka, D. (2017):***The 'New' Digital Economy and Development***, UNCTAD – Division on Technology and Logistic, http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d08_en.pdf(accessed on 21 February 2018)

Tvrtko Galić, MSc in Economy
Faculty of Education Osijek
PhD student
Cara Hadrijana 10, Osijek, Croatia
Mobile: ++385 98 833 387
E-mail address: tgalic@foozos.hr

AN ANALYSIS OF VARIOUS FACTORS AFFECTING SALES STAFF MOTIVATION – A CASE STUDY OF TELECOMMUNICATIONS IN CROATIA

ANALIZA UTJECAJA RAZLIČITIH FAKTORA NA MOTIVACIJU ZAPOSLENIKA U POSLOVNOJ PRODAJI – CASE STUDY TELEKOMUNIKACIJE RH

ABSTRACT

The aim of this paper is to analyse the organizational behaviour and motivation levels of employees in the sales department of a multinational telecommunications company. Based on the analysis, an attempt will be made to determine the main reasons for certain levels of staff motivation and how they differ from standard attitudes. The primary research was conducted by surveying 68% of the respective department's sales staff. For the sample to be representative, the regional breakdown was taken into account within the analysed department as well. Alongside the primary research through surveying, a short SWOT analysis was made to identify the elements having a positive or negative impact on the department's sales results, which proved to be closely related to sales representatives' motivation. The author's twelve years of experience in this industry segment contributed to the quality of the analysis. The significance of the results is especially notable when considering the wider context. The impact of the environment in which the company operates, with a major and strong influence of the competition, forces the company to approach the market with utmost strategic consideration. In addition, the analysed market is highly profitable, but it also requires major investment. Another important fact is that we analysed the B2B segment of the sales department, which is characterised by the standard specificities of every sales department. The analysed department also has characteristics and competences that are specific to communication with businesses, such as building partnership relations with customers, the very complexity of the products and services, and the constant evolution of those products and services. The research has led to several significant findings. They are related to the reasons for increases and declines in employee motivation arising from the quality of goal setting, the way relations between other departments within the business system are defined, and timely placement of services through identification of market demand.

Key words: *motivation, sales representative, B2B sales, telecommunications, Croatia, a multinational company.*

SAŽETAK

Cilj ovog rada je analizirati organizacijsko ponašanje i razinu motivacije zaposlenika u jednom od odjela poslovne prodaje u multinacionalnoj telekomunikacijskoj kompaniji. Na temelju analize pokušati će se odrediti koji su glavni razlozi određene razine motivacije zaposlenika i koliko su oni različiti od standardnih stavova. Primarno istraživanje je obavljeno anketiranjem 40% prodajnih predstavnika odjela kojeg analiziramo. Unutar analiziranog odjela za reprezentativnost uzorka *uzela se u obzir i regionalna raspodjela. Uz primarno istraživanje anketiranjem, napravljena je i kratka SWOT analiza odjela kako bi se utvrdili elementi koji imaju pozitivni, odnosno negativni učinak na prodajne rezultate odjela, što se pokazalo da je u uskoj vezi sa motivacijom prodajnih zastupnika. Dvanaest godišnje iskustvo autora upravo u tom segmentu industrije pridonijelo je što kvalitetnijoj analizi. Znakovitost dobivenih rezultata dolazi do izražaja posebice ukoliko se pogleda širi kontekst. Utjecaj okruženja u kojem kompanija djeluje, u kojem je izrazito velik i intenzivan utjecaj konkurencije, prisiljava kompaniju da zbog toga strateški izrazito promišljeno nastupa na tržištu. Uz to, tržište koje se analizira je visoko profitabilno, ali iziskuje i velika ulaganja. Također važna je činjenica da analiziramo segment odjela prodaje poslovnih korisnika kojeg obilježavaju standardne specifičnosti svakog odjela prodaje. Analizirani odjel također sadrži karakteristike i kompetencije koje su specifične za komunikaciju isključivo sa poslovnim korisnicima, kao što je stvaranje partnerskog odnosa sa korisnikom, sama kompleksnost proizvoda i usluga, i svakodnevna evolucija tih proizvoda i usluga. Istraživanje je pokazalo nekoliko podataka koji su znakoviti. Oni se odnose na razloge pada i povećanja motivacije zaposlenika koji proizlaze iz kvalitete postavljanja ciljeva, definiranja odnosa između drugih odjela unutar poslovnog sustava, te adekvatnoj i pravovremenoj ponudi usluga kroz prepoznavanje potreba na tržištu.*

Ključne riječi: *motivacija, prodajni zastupnik, poslovna prodaja, telekomunikacije, Hrvatska, multinacionalna kompanija.*

1. Introduction

Employee motivation is one of key factors necessary for the success of a company. Successful management of the motivation level requires a systematic approach to analysis of all business processes within a certain business entity and thus the analysis of the external environment in which the entity operates. For that reason, superiors in every business entity need to have the knowledge and skills to use tools which are at their disposal in everyday business with the goal of maintaining employee motivation at a level which keeps the employee satisfied and the business entity successful. The goal of this paper is to analyse the organisational behaviour of one segment within a system of a large international company in the Republic of Croatia. The analysed department is a B2B sales department, and its primary task is to directly contact and acquire new customers in order to maintain and ultimately increase revenue. The company selected for the analysis operates within the telecommunication sector. This company is interesting for analytical purposes due to several reasons, the first being the fact that the company is a part of a large international company which operates in several countries and in each of those countries has a separate range of products from its *core business*. The second reason why it is interesting is because of the environment in which the company operates, where an especially strong and intense impact of the competition is present, therefore the company needs to operate in this market according to a prudent strategy. Additionally, the market set for analysis is extremely profitable, but requires significant investments. The third reason for the analysis is the fact that we are analysing a sales department for business customers which has some standard specificities, as does every sales department, but it contains many more characteristics which are specific to communication with business customers, partnership building and the complexity of products and services itself, as well as their everyday evolution. Because of everything mentioned above, it is evident that the company needs to pay special attention to the motivation of its employees at the level of the entire company, and most of all to the sales department, which brings revenue into the company. Motivated individuals invest more effort in what they do than those who are not. A more extensive definition of motivation says that motivation is the willingness of an individual to do something and that it is conditioned by the adequacy of that action to satisfy a certain need of the individual. An unsatisfied need creates tension, which stimulates urges within the individual. These urges create a tendency to find certain goals, which will, if achieved, satisfy the need and result in the release of tension (Robbins, 1992: 44-45).

In the research part of the paper, the goal was to establish the level of motivation in employees, i.e. factors which affect the level of motivation from the employee's point of view. Furthermore, an analysis was created to establish elements which have a positive or negative effect on the sales results of the department, which turned out to be closely related to the motivation of sales representatives. The research resulted in some significant data. They are related to the reasons for drops and increases in employee motivation which come from goal setting quality, definition of relations between other departments within the business system as well as adequate and timely offer of services as a result of recognizing the needs on the market. The *Small and Medium Enterprises* Department within business sales was analysed, i.e. the SME Department which, at the time of the analysis, included a segment of 15 to 50 employees. The SME Department is also the largest one in the company as well as the department with the largest potential market in the Republic of Croatia.

2. Theoretical part of the paper

The telecommunications market in the Republic of Croatia is one of the most intense and most active markets. The telecommunications market implies the services pf fixed and mobile telephony, fixed and mobile internet as well as services of multimedia content, primarily television. It is important to approach the market analysis chronologically, with regards to the phases the market went through. For many years, the telecommunications market had only one mobile provider, Hrvatski Telekom, but significant changes came in 1999, when Vipnet started operating commercially as the second mobile operator (Vipnet: 2018). This can be considered as the start of the liberalisation of the telecommunication market in the Republic of Croatia, despite the fact that a monopoly was still present in fixed telephony, while there was a duopoly in mobile telephony. A complete liberalisation of the mobile market occurred with the arrival of the Swedish operator Tele2 in Croatia and the start of its operations in 2005 (Tele2: 2018). This resulted in a significant price drop in the mobile service market and a fight between the providers for every single customer began. This fight has continued until today. The process of liberalisation in the fixed services market started later, in 2005, when alternative providers start operating in the market as competition to Hrvatski Telekom; there was 14 of them in the market at the time (MSTI: 2018). As the liberalisation did not take place in the direction and at the rate which were expected, difficulties in the alternative providers' operations arose, and, several years after the start of liberalisation, the consolidation and grouping of the telecommunications market began. This consolidation is presently entering its final phase. The consolidation once again results in the duopoly of Hrvatski Telekom and Vipnet which, by taking over the ownership and management, control alternative providers, therefore only two providers who can offer convergent service (mobile, fixed, internet and multimedia service) are left. Besides those two operators, only Tele2, which offers exclusively mobile services, remains.

With respect to the market shares, the latest relevant indicator of HAKOM (Croatian Regulatory Authority for Network Industries) for September of 2017 is the information that Hrvatski Telekom has a share of 45.90%, Vipnet of 35.43% and Tele2 18.67% for mobile services (HAKOM: 2018). With respect to the fixed, i.e. stationary network, HAKOM defines the share of Hrvatski Telekom at 55.53% and the share of all other operators at 44.47% for the same period (HAKOM: 2018). All other operators include Iskon and Optima Telekom which are owned by or under the control of Hrvatski Telekom. In the B2B segment, Vipnet's share in the mobile market is 40%, while in fixed services it amounts to 30% (ICTBUSINESS.INFO: 2018). In order to illustrate the size of the market it can be said that the total revenues of operators in the third quarter of 2017 amounted to 3 and a half billion HRK (ICTBUSINESS.INFO: 2018).

In terms of hierarchy, the structure of business sales in the analyzed company,in the last few years went through many transformations and, at the time of analysis, it was comprised of 4 levels.At the top, there was the executive director of business sales, with directors in charge of departments for large business customers and SME business customers reporting to him and managing sales teams

which are in turn managed by team leaders. Teams, depending on their assigned segment, are also different in terms of the industrial vertical they operate in, i.e. the regional division of customers.
The sales segment highly depends on motivation and creation of a high quality organisational environment in each industrial vertical and especially in the one where the competitive factor is strong. Accordingly, application of certain motivation theories to the organisational behaviour of employees can contribute to explaining certain actions and behaviours.
The behaviour of employees, which is a result of motivation in the sales teams in the business sales department of the telecommunication company is conditioned by factors such as:

- Clearly defined goals and rewards for goals achieved
- Competitiveness of the service being sold and competitors' activity on the market
- Available market potential
- Available sales tools
- Clearly defined business procedures within the company as sales support
- Clearly defined hierarchy level in decision making and responsibility in accordance with the hierarchy
- Clearly defined time management and reporting methods
- Continuity in defining the company policy
- Motivation through growth and possibility of advancement
- Fairness in performance evaluation

Looking at these factors in the context of different motivation theories, in the course of the analysis we can single out several elements defined in those theories that are considered important in terms of their application to the business sales department. The motivation-hygiene theory (Robbins, 1992:48) refers to employee's expectations of the work he does, i.e. about the internal factors which make give him satisfaction at work or those which make him dissatisfied at work. Team leaders often remedy factors of dissatisfaction, but those actions do not necessarily lead to additional motivation, only to the removal of dissatisfaction. In the research part of the paper, by means of a SWOT analysis we will determine the exact elements which are used to remedy dissatisfaction, i.e. they are considered to be factors of hygiene, i.e. elements which can lead to increase of employee satisfaction and motivation. The fact that team leaders on all levels are mostly recruited from the ranks of sales representatives, from the point of view of the three needs theory (Robbins, 1992:50), where one of the needs is the need for achievement, can result in that someone who is a good sales representative will not necessarily be a good team leader, and that does not necessarily need to be seen as a reward i.e. non-reward in case of non-promotion to the team leader position. A good sales representative can be rewarded by increasing remuneration and leaving him at the same job. Such action can in the long term result in a larger income for the company because the employee will still be motivated and do the work he is good at.
The most important factor when motivating employees is achieving results through a clearly defined goal. The goal setting theory refers to the importance of setting goals for each employee in a way that they see motivation in them, i.e. that they are motivated enough to achieve them (Robbins 1992:52). I consider this to be very important in the business sales department of a telecommunication company, because it is necessary to coordinate the attainability of goals and clear goal setting with other elements, such as market size, deadlines for achieving goals, goal measurability, competitiveness of a product or of a service, tools at disposal for achieving that goal, clearly defined reward for the achieved goal.
Considering that in private companies and especially in large international corporations a lot of care is taken to keep the salaries and all other incomes confidential, it is important not to cause an opposite effect because of it. The equity theory refers precisely to that effect, which can be caused by the salary confidentiality through observations of sales representatives regarding the effort invested in certain business activities (Robbins, 1992:54). If, for example, two employees are unequally rewarded and evaluated, but they invested the same amount of effort, this can cause a drop in motivation for the employee who was rewarded less. To avoid problems in these cases, the leader must clearly set goals, adapt them and clearly define the "rules of the game" so the

employees would not, through their subjective judgement express concern because of the reward amount and the results achieved by a work colleague and take steps to correct the situation on their own. All of this can result in poorer results for the entire company, drop in motivation or departure of sales representatives to the competitor, where the sales representative believes his work will be adequately valued.

At the end of the theoretical part of the paper, an attempt will be made to briefly explain the specific features of the business customers market. Grbac and Lončarić (2010:208) use the term business market and describe it as the market in which business entities act both on the side of supply and on the side of demand, while business entities which are in the role of a buyer, use the products and services purchased for regular flow of the production process, i.e. production of other products. The same authors further explain that buyers enter the business market motivated by economic reasons and not to satisfy their own personal needs. The said market is characterised by specific features related to the market structure, characteristics of demand, type of decisions made, specific properties of purchasing and the specific properties of the relationship between the buyer and the seller.

3. Research part of the paper

a. Methodology

In this paper, an effort was made to determine the accuracy of attitudes regarding the organisational behaviour within a large business system which concern the specific features of departments dealing with businesses customers. The specific feature of the department is that it addresses the sales segment, which is one of the vital factors in every business system because it yields revenue, hence it must have a certain degree of flexibility to adapt to market needs.

In order to establish the degree of organisational behaviour within the B2B department of a telecommunication company in the best possible manner, an attempt will be made to set research goals with regard to the analysis of the B2B department. We can summarise those goals into several key points:

- Establish what affects the motivation of employees in the B2B department and to what degree does salary affect motivation
- Establish if employees agree with the way of defining goals as the key factor to measure performance and hence the amount of financial compensation to the employee
- Establish the range and structure of the work done by individual employees with regards to job description and the goals set and in what relationship is that with other departments
- Establish the market potential and situation with regard to the competition

In terms of methodology, analytical methods were primarily used in this paper, i.e. SWOT analysis and a questionnaire. Besides the SWOT analysis we also used methods of synthesis, methods of generalisations and the research of secondary data via publicly accessible services. Publicly accessible data over the internet, were gathered primarily via official sites of market participants, i.e. specialised portals which are focused on that topic. Based on the research goals, a SWOT analysis and a questionnaire were created, after which the data obtained during the SWOT analysis were analysed and synthesised in order to derive a conclusion. The analysed SME section within the B2B department has 25 employees. It is divided into 2 regions which are managed by regional directors and within each region there are 2 sales teams managed by regional team leaders. In that context, the department is managed by 6 people (2 directors and 4 regional leaders), there is a total of 19 sales representatives in 4 teams, 10 people in 2 teams of the South region and 9 sales representatives in 2 teams of the North region. By means of an *online* questionnaire, a total of 17 employees were questioned, i.e. 68%. While the number of employees may not be suitable for a questionnaire and for making relevant statistical conclusions, the large percentage of respondents ensures that the results obtained in the research can be used as an additional element of quality, along with the SWOT analysis, to help reach certain conclusions. Multiple choice questions were used in the questionnaire, i.e. a Likert scale from 1 to 7 which was used to express the degree of agreement with certain statements.

b. SWOT analysis

In order to detect the specific features of the SME department as accurately as possible with the goal of obtaining answers to the questions defined in the goals of this paper, we will carry out a SWOT analysis of the department itself and, while doing so, we will carry out an analysis of the company by defining its strong and weak points, strengths and weaknesses, i.e. by defining external opportunities and external threats which are out of the company's control.

SWOT analysis:

Internal strengths

- A clearly defined bonus policy within the company
- Existence of motivation through acquired benefits on the job
- Flexibility for the customer
- Well perceived by customers
- Higher quality of mobile services than those of certain competitors
- Average salary in the sector is significantly higher than the average salary at country level
- Financial stability of the company
- Operating on a profitable market
- A large number of sales representatives, which is not the case with small competitors
- Existence of a customer base for sales of new services

Internal weaknesses

- Frequent reorganisations and a significant staff turnover in the sales segment
- Lack of uniformity regarding goals on a company level and frequent changes in the methods of measuring their realisation
- Strong dependence on the support of other departments in the company
- Small chances for promotion within the company - advancement, in most cases, is conditioned by a superior leaving the company
- Constant decline in the quality of customer relations due to organisational changes
- Goal setting by focusing on new revenue is contrary to the range of work done by sales representatives regarding the preservation of current revenues and their overload with the number of companies in their personal portfolios
- Disproportion of team leaders in relation to sales representatives - revenue-creating and non-revenue creating jobs
- The decision-making hierarchy slows down business processes which get slower as the level of decision-making increases
- Highly experienced main competitor in the area of fixed services
- Non-existence of product and service innovations - always a follower, never the innovator
- Creating portfolios of new products and services without proper cooperation with "people on the field", i.e. sales representatives

External opportunities

- Market demand to access higher internet speeds
- Creating own optic fibre network ensures long-term satisfaction of customer needs regarding internet speed
- Growth of the multimedia service market
- A large share of the dominant provider on the market of multimedia services opens a potential for sales growth
- Increased demand for consumption of larger internet plans in mobile services
- A large share of the dominant operator on the market of fixed services opens a potential for sales growth
- Major potential of the ICT market through financial magnitude of the market and a large number of smaller companies perceived as competition
- Constant growth of business customers needs to improve their own information structures
- Great potential of the IoT market

External threats

- Constant drop in ARPU (average revenue per user) at the level of the mobile services market
- Market saturation with telecommunication services
- Existence of competition with a dumping role on the mobile services market
- Increase of mobile devices life span and constant growth of their purchase prices
- High dependence on the dominant provider and greatest competitor in fixed telephony
- Increased need for higher internet speeds on the market
- Regulators failing to regulate the fixed services market
- The quality of access technology significantly limits the increase in sales of fixed services
- Small potential for new, high-quality human resources to be attracted to the company
- Dependence on tenders

c. Questionnaire

In the online questionnaire, 68% of the employees in the SME department were included, while keeping in mind regional representation.

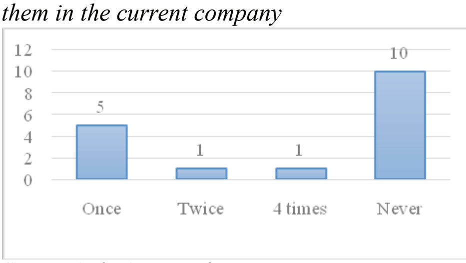
Table 1 *Overview of the respondents with regards to the total number of employees in the SME department in 2017 (expressed in %)*

	region North			region South			total		
	employed	surveyed	%	employed	surveyed	%	employed	surveyed	%
leaders	3	2	67%	3	1	33%	6	3	50%
sales representatives	9	6	67%	10	8	80%	19	14	74%
total	**12**	**8**	**67%**	**13**	**9**	**69%**	**25**	**17**	**68%**

Source: Author's research

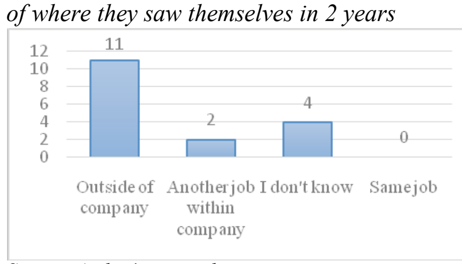
As stated in the SWOT analysis, the possibility of advancement definitely affects motivation. Taking into account that the average working life of respondents in Vipnet is 5.23 years, as much as 10 out of 17 respondents (58%) did not get an opportunity to advance, and 11 of them (64%) saw themselves outside of the company in 2 years, while not one person said that they saw themselves on the same job in 2 years. If an employee does not see his future within the company, even just for a short term, his motivation definitely impacts the result.

Graph 1 *Respondents' answers to the question of how many times promotion was offered to them in the current company*



Source: Author's research

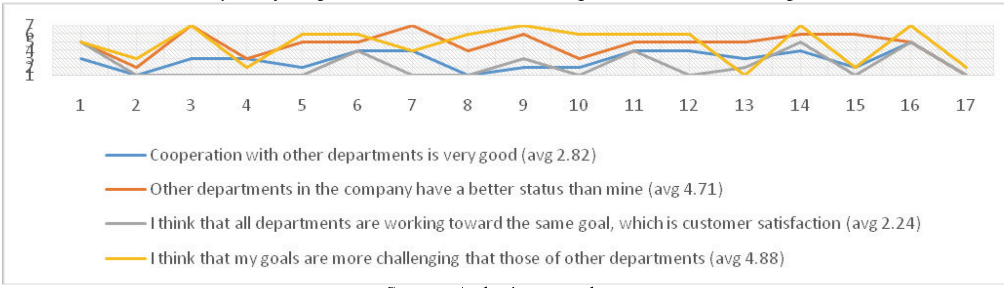
Graph 2 *Respondents' answers to the question of where they saw themselves in 2 years*



Source: Author's research

The analysis in Chart 4, where the respondents rated their statements using the Likert scale shows that a smaller number of respondents agreed with the statement that the cooperation with other departments was poor (avg 2.82), and that the goal of all employees was customer satisfaction (avg 2.24), while, conversely, the statement that other departments had a better status within the company was rated with relatively high marks (avg 4.71), i.e. that other departments had less demanding goals compared to those of the SME department (avg 4.88).

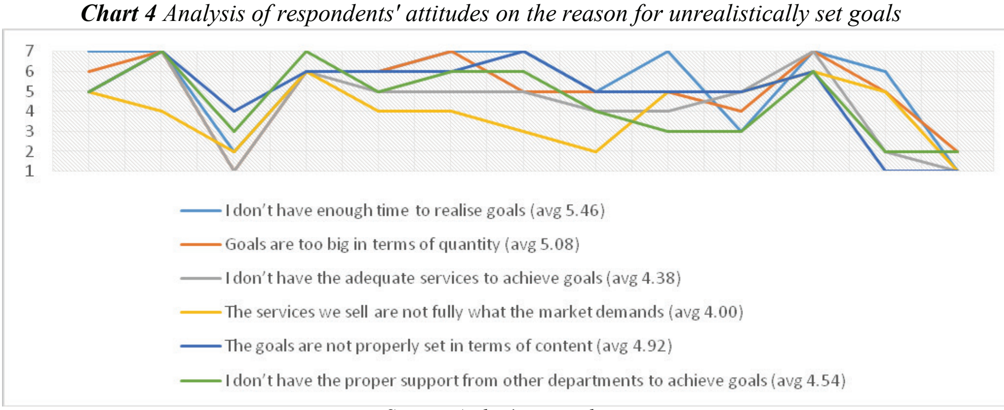
Chart 3 Analysis of respondents' attitudes on comparison with other departments



Source: Author's research

When asked about the reality of their goals, 76% (13 respondents) believed that their goals were not realistic while the remaining 24% (4 respondents) believed their goals were realistic. Attitudes because of which employees considered their goals to be unrealistic were analysed using the Likert scale from 1 to 7, 1 meaning strong disagreement with the statement and 7 meaning strong agreement with the statement. From the chart below, a high level of agreement can be seen with the statement that the realisation of goals is held back by lack of time (avg 5.46) and the statement that the goals were, in the quantitative sense, too big (5.08) and that the goals were not properly set in terms of their content (4.92).

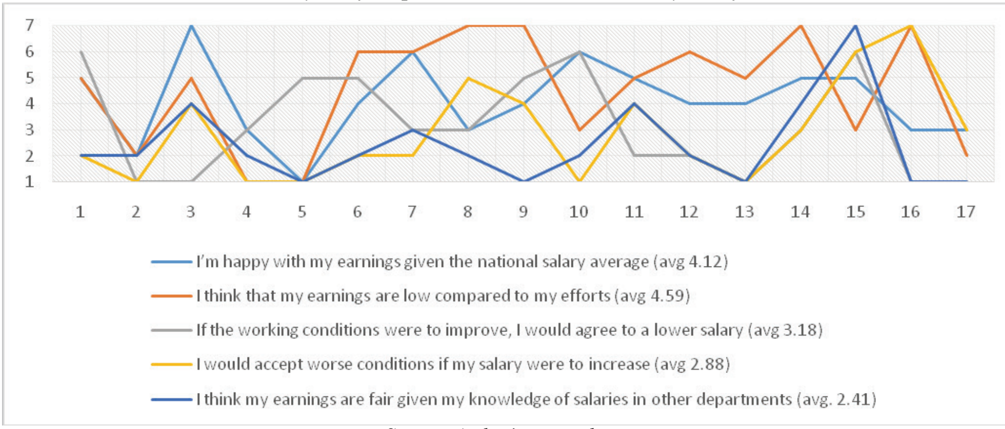
***Chart 4** Analysis of respondents' attitudes on the reason for unrealistically set goals*



Source: Author's research

As the final part of the questionnaire, we may analyse the attitudes of employees on their earnings. Chart 5 indicates that the employees were satisfied regarding their income when compared with the average salary in the Republic of Croatia (avg 4.12). According to the publicly available data, the average salary for March of 2017 in the Republic of Croatia was 6,022 HRK, while the average salary in the telecommunications sector was 11,203 HRK (Večernji list; 2017). In 2016, the average salary in Vipnet was 9,900 (Bon.hr; 2017). Notably, employees did not have clearly defined attitudes on whether they would agree to an increase in salary if the work conditions were to worsen (2.88) or to a salary decrease if the work conditions were to improve (avg 3.18).

***Chart 5** Analysis of respondents' attitudes on salary satisfaction*



Source: Author's research

4. Conclusion

After considering all the data obtained in the research part of this paper, we can conclude that the analysed part of the company has many strengths which are not sufficiently utilised because internal weaknesses prevail over them, and this reduces employee motivation. During the research, it was established that the key factor in increasing employee motivation in the *SME* department was not related to finance but was affected by other factors as well. Those prevailing internal weaknesses are reflected primarily in the excessive amount of work which burdens sales representatives, this results in excessive workload which is not valorised in the set goals that affect the material compensation for their work. The fact that most sales representatives thought that the goals were not set realistically affected their motivation. Administrative work is often bigger and more important than sales, thereforethe time frame for sales representatives to acquire new customers and expand the range of products and services at existing customers is reduced.

On the other hand, the transition of the telecommunications industry towards the ICT market, and the technologies and services directed at the ICT market because of its great potential is evident. Considering that digitalization, which is the basis of the ICT market, is happening on all levels, the B2B department will need to invest efforts to be able to compete on such a market. The company needs to exploit its customer base, which is its great advantage, as well as the loyalty of customers using their current services, and offer complete and convergent solutions which will fully satisfy all customer needs. All of this will not be feasible unless employees are motivated for increased activities in that field. In order to realise this, the employer must listen to the customer's needs and create competitive products and services which the sales representatives, as the only revenue-creating part of the company, will be able to adequately monetise.

REFERENCES

Book:

Grbac B., Lončarić D. (2010); Ponašanje potrošača na tržištu krajnje i poslovne potrošnje; Rijeka: Ekonomski fakultet Sveučilišta u Rijeci

Robbins P. Stephen (1992). *Bitni elementi organizacijskog ponašanja.* Zagreb: Mate d.o.o.

Internet resource:

Bon.hr (2017), *Produktivnost.* http://www.bon.hr/apex/f?p=1100:57:9940691980684::NO::: [accessed 08 March 2018]

HAKOM (2018). *KVA HR Q3 2017 udio operatora pokretnih mreža obzirom na broj korisnika.pdf* https://www.hakom.hr/UserDocsImages/2017/e_trziste/KVA%20HR%20Q3%202017%20udio%20operatora%20pokretnih%20mre%C5%BEa%20obzirom%20na%20broj%20korisnika.pdf[accessed 8 January 2018]

HAKOM (2018). *KVA HRV Q3 2017_Udio po broju korisnika_nepokretna.pdf* https://www.hakom.hr/UserDocsImages/2017/e_trziste/KVA%20HRV%20Q3%202017_Udio%20po%20broju%20korisnika_nepokretna.pdf[accessed 8 January 2018]

ICT BUSINESS.INFO (2018). *Padaju prihodi od fiksne i mobilne telefonije, raste prihod od širokopojasnog pristupa internetu* http://www.ictbusiness.info/telekomunikacije/padaju-prihodi-od-fiksne-i-mobilne-telefonije-raste-prihod-od-sirokopojasnog-pristupa-internetu[accessed 8 January 2018]

ICT BUSINESS.INFO (2018). *Vipnet kreće s novim brandom za poslovne korisnike - Vip Metronet business solutions* http://www.ictbusiness.info/telekomunikacije/vipnet-krece-s-novim-brandom-za-poslovne-korisnike[accessed 8 January 2018]

MMPI – Ministarstvo pomorstva, prometa i veza (2018). *Početak dugoočekivane liberalizacije telekomtržišta* http://www.mppi.hr/default.aspx?id=1429 [accessed 8 January 2018]

Tele2 d.o.o. (2018). *O nama*. https://www.tele2.hr/o-tele2/o-nama/[accessed 8 January 2018]

Večernji list (2017). *Prosječna plaća u telekomunikacijama viša od 11 tisuća kuna, evo gdje je najniža*. https://www.vecernji.hr/biznis/prosjecna-placa-za-ozujak-6-022-kune-1173626 [accessed 8 January 2018]

Vipnetd.o.o. (2018). *Profil Vipneta*. http://www.vipnet.hr/profil.[accessed 8 January 2018]

Vladimir Grebenar, PhD
Vinkoprom Ltd. / University College Nikola Subic Zrinski
Zlatana Sremca 47, 32100 Vinkovci / Selska cesta 119, 10000, Zagreb, Croatia
Phone: 00385994394044
E-mail address: vladimir.grebenar@gmail.com

Josip Britvić, univ. spec. oec
Top Consult Group Ltd.
M.P.Miškine 88, 48363 P.Sesvete, Croatia
Phone: + 385 99 2897 601
E-mail address: josip.britvic@top-consult-grupa.hr

EXTRINSIC ORGANIZATION, CAPACITY FOR INNOVATIVENESS AND WORK PERFORMANCE

EKSTRINZIČNA ORGANIZACIJA RADA, INOVACIJSKI KAPACITETI I RADNA UČINKOVITOST

ABSTRACT

In modern management theory, one of the biggest challenges and problems in organizing company work is to create such an organizational environment that has a positive impact on the desired levels of employee work motivation. Psychology of work records a strong development in knowledge from the field of study of work motivation and impact on work efficiency. Between the forms of work motivation, personal potential for innovation and work efficiency, there is a strong causal and consequent logical connection. The on-going task of top management in dynamic business processes and constant changes in the outside world is to build and maintain an extrinsically motivating work environment as a prerequisite for the growth of the organizational innovation capacity and growth of business efficiency or competitiveness of the company.Although intrinsic form of work motivation is most desirable, it is a rare and individual case, mainly at the level of larger centres of accountability, because it is very difficult to design an organization in which a significant population is made up of employees with high autonomy in business and the ability to create a working environment. On the other hand, there is a lingering challenge to design an organization where employees accept work assignments where motivation is primarily influenced by their desire, and only then the obligation to perform the task. Such positive working environment can significantly affect on the company efficiency and competitiveness. The underlying problem that is addressed by this work is the lack of an integrative approach to the recognition of key factors of various work motivation theories to which management of the enterprise can influence through the design of the efficiency measurement system and the reward system.

Key words: *work motivation factors, theory and models of work motivation, measurement of work efficiency, work-compensation system.*

SAŽETAK

U suvremenim teorijama iz širokog područja menadžmenta jedan od najvećih izazova i problema u organizaciji rada poduzeća je kreiranje takve organizacijske okoline koja ima pozitivan utjecaj na što poželjnije stupnjeve radne motivacije zaposlenika. Psihologija rada bilježi snažan razvoj u spoznavanju iz područja proučavanja radne motivacije i utjecaja na radnu učinkovitost. Između oblika radne motivacije, osobnog potencijala za inovativnost i radne učinkovitosti opstoji snažna *uzročno – posljedična logička povezanost. Trajan zadatak vrhovnog menadžmenta u dinamičnim procesima poduzeća i stalnim promjenama u vanjskoj okolini je izgraditi i održavati ekstrinzično motivirajuću radnu okolinu kao preduvjet rasta inovacijskih kapaciteta organizacije i rasta poslovne učinkovitosti, odnosno konkurentnosti poduzeća. Premda je intrinzični oblik radne motivacije najpoželjniji, on je rijedak i pojedinačan slučaj, uglavnom na razinama većih centara odgovornosti, jer je vrlo teško dizajnirati organizaciju u kojoj značajnu populaciju čine zaposlenici s visokom autonomijom u poslu i mogućnosti da kreiraju radnu okolinu. S druge strane, ostaje trajan izazov kako dizajnirati organizaciju u kojoj zaposlenici prihvaćaju radne zadatke gdje na motivaciju u prvom redu utječe njihova želja, a tek onda obveza da izvrše zadatak. Takva pozitivna radna atmosfera u organizaciji može značajno utjecati na efikasnost i konkurentnost organizacije. Temeljni problem koji se želi riješiti ovim radom je nedostatak jednog integrativnog pristupa u spoznavanju ključnih čimbenika različitih teorija radne motivacije na koje menadžment poduzeća može utjecati kroz dizajniranje sustava mjerenja učinkovitosti i sustava nagrađivanja.*

Ključne riječi: *faktori radne motivacije, teorije i modeli radne motivacije, mjerenje radne učinkovitosti, sustav kompenzacije rada.*

1. Introduction

Before the interpretation of the form of work motivation, it is necessary to define what is meant by the natural behaviour of man and man's attitude towards work and responsibility.

„*The fullest representations of humanity show people to be curious, vital, and self-motivated. At their best, they are agentic and inspired, striving to learn; extend themselves; master new skills; and apply their talents responsibly.* " (Ryan, M., Deci, E., 2000: 68).

Starting from the assumption made above, the question arises as to why so many organizations are present in the behaviour of the number of employees at all levels of the organization that can be characterized as a rejection of responsibility and reactivity to learning and personal construction, non-motivation for personal and organizational change, low capacity for innovation etc.Contemporary approaches to the problem of work motivation assume that man's true habit is responsible creativity, but we cannot deny that we live in a world where a significant population of the labour force does not express the expected behaviours.

„*Yet, it is also clear that the human spirit can be diminished or crushed and that individuals sometimes reject growth and responsibility.* " (Ryan, M., Deci, E., 2000: 68).

When designing an Efficiency Measurement System and Performance Compensation System, managers need to respond to the challenges of creating a sustainable extrinsic organization. Therefore, it is very useful to have clearly interpreted key variables of different employee behaviour patterns that may be influenced by measurement and compensation systems before designing such systems.

The purpose of this paper is to identify the key factors of work motivation that can be improved by a fair system of measurement of business efficiency. The paper should provide answers to questions that can be promoted through the business and performance measurement system and the work-compensation system.

2. Methodology

This paper deals with the review and historical method of reaching out to other relevant authors in the field of psychology of work and theories of motivation of work during the last century. More important than the compilation itself, of the assumptions, models and theories of other authors, is the question of validating the synthesis of the knowledge of other scientists from the perspective of designing the measurement system of business and work efficiency and the work-compensation system. The axiological question is what value does this work for designers of business and performance measurement systems, and is the answer to the assumptions of theoretical models that are interpreted in the work, i.e. used in modern management. Validation of the values of the collected and processed data should be based on the epistemological assumption that only those knowledge and theories that apply in contemporary management are relevant, and for this are the indicators and sources of checking of contemporary literature from strategic, operational, project, HRM, accounting and marketing management which was used for work purposes. The ontological theoretical assumptions on the reality of selected factors that influence work motivation, which can be influenced by efficiency measurement systems and work-compensation systems, are based on contemporary literature and models interpreted in that literature.

3. Research

By looking at the relevant and best-known interpretative models that deal with the problem of work motivation and the factors that motivate the work motivation and improve the efficiency of work, it is easy to notice the importance of objective recognition of business efficiency, recognition of results achieved and feedback on achieved results.
One of the first theoretical models of work motivation and work efficiency was based on *"Theory X"* and *"Theory Y"* by American scientist Douglas McGregor, a professor of management from the MIT Sloan Business School from Cambridge. McGregor's work from 1960's, *"The human side of entreprise"* of the year caused great changes in the field of management and the relationship to work motivation. McGregor believed there were two groups of workers:

1) workers who must be supervised by management to do their job because they do not want to work and assume responsibility ("Theory X") and

2) workers to which the management should help in doing their job because they want to work and to assume responsibility ("Theory Y").

McGregor's assumption was that there are more workers who need to be strictly supervised (X) than those who need support for work (Y). This hypothesis over time proved to be wrong, as the basic "X-Y" model did not include enough work motivation factors.

Abraham Maslow, in his work of 1970, *"Motivation and Personality"* set up a new motivational model based on the "personal needs" that each individual is driven, whether it is a prospective buyer (consumer) or a worker. In his *"Need Theory"*, Maslow assumed that people were motivated to respond to the personal needs they are trying to satisfy in order of biogenic (first two levels) towards psychogenic (the other three levels). In addition, Maslow assumed that the model is hierarchical, that people first want to meet the physiological needs (because they are stronger than all), and then satisfy the degree of other needs if they have the opportunity. Therefore, the Maslow's hierarchical model assumed that all individuals meet the needs of their lives in some order, and physiological needs are the most powerful, while the need for self-actualization is less intense than the other levels. The model contains five levels of need:

1) physiological needs (food and drink),

2) security (housing, health, free movement),

3) affiliation and love (family and reference social groups),

4) respect (social status, role in society) and

5) self - actualization (personal and professional development).

After Maslow's work, another author, Clay Alderfer, in his 1977 scientific paper criticizing research on needs theory (Alderfer, C., 1977: 658-672), proposed the narrowing of the Maslow's model at three levels of need:

1) existing (existence),
2) relationships and
3) personal growth.

David McClelland described and continued developing the model of Henry Murray in his 1971 *"Assesing human motivation"*. Murray refuted hierarchical needs model (Maslow - Alderfer), and claimed that people should be categorized in view of their more pronounced needs. According to Murray, there is no solid olive grove presumption and hierarchical model, but people often have divergent and completely opposed needs. Murray has argued that there are four types of needs, three of which are relevant to work motivation:

1) the need for achievement or success,
2) the need for affiliation and,
3) the need for influence or power.

Murray believed that this type of need is primarily a consequence of learning rather than inheritance, and the intensity of their activity depends on the environment.
People motivated by the needs for success are characterized by the following characteristics (Whetten, D., Cameron, K., 2007: 350):

a. a tendency to set medium to heavy goals,
b. an express wish to take personal responsibility for activities,
c. a focus exclusively on the completion of the task,
d. an express wish for feedback on the performed task.

People motivated by the need for success can be good indicators of future outcomes of planned activities, as the correlation between strong need for achievement and high operational efficiency is high, and senior management can count on predictable outcomes. People with a strong need for success tend to work with a greater degree of responsibility and autonomy.
People, motivated by the need for affiliation, are characterized by the following characteristics (Whetten, D., Cameron, K., 2007: 350):

a. a sincere interest in the feelings of others,
b. a tendency to behave according to the expectations of others, especially of those in whose affiliation they believe,
c. a strong desire for constant confirmation and approval of others.

When engaged in the work of people with expressed cooperation needs, one should expect the person who wants to develop an increasing number of mutual contacts. Unlike the need for success, stronger and more intense co-operation needs do not correlate with better performance.
People, motivated by the need to influence, are characterized by the following features (Whetten, D. Cameron, K., 2007: 350):

a) they are organizationally oriented, feel personal responsibility for improving the organization's purpose,,

b) are pleased to work and perform tasks in a neat way,

c) they are often willing to sacrifice their personal interest for the of good the organization,

d) have a strong sense of truth and justice and

e) seek professional advice and have no resistance when others criticize their ideas.

„*Individuals with a high need for power seek leadership position and tend to influence others in a fairly open, direct manner.* " (Whetten, D., Cameron, K., 2007: 350).

„*People whose need for power is socially oriented, rather tha personally oriented, are effective leaders and should be allowed to manage others*." (Mulcahy, R. 2013: 367).

It is worth mentioning Frederick Herzberg's *"Theory of Two Factors"*, known as "Herzberg's Motivational Hygiene Theory". Herzberg (2000: 57) is basing its model on two sets of factors:

a. motivators (agents)
   i. responsibility,
   ii. trust,
   iii. challenging profession,
   iv. the possibility of making decisions,
   v. awards for achievements,…
b. hygienics
   i. status,
   ii. job security,
   iii. salary,
   iv. privileges,
   v. insurance,
   vi. vacation,
   vii. rules and procedure for work,…

According to Herzberg, the lack of hygienic factors in the company, or in the individual, will cause the lack of motivation. Without hygienic factors, there is no motivation and work satisfaction, and consequently no working effect.
Herzberg, considering possible combinations of hygiene factors and motivational factors, assumed the following outcomes:

a. powerful hygienics + powerful motivators = best situation, low employee complaints and high performance and satisfaction,

b. powerful hygienics + weak motivators = few complaints about the job, but the job is perceived as a "salary deduction for wages",

c. weak hygienics + powerful motivators = a lot of business complaints, salaries and responsibilities are not aligned even though the job is challenging,

d. weak hygienics + weak motivators = worst situation, a lot of complaints about work, low work performance and employee satisfaction.

Removing weak hygiene factors is just part of the job. Management must integrate, in organizational structure and work processes, powerful motivators for the organization to generate better performance.

Over the decades, some form of motivational model has been sought that could interpret what are the key factors and how they affect employee motivation and employee performance. The historical underlying assumption of various motivational researches was the logical relationship between satisfaction, motivation and work efficiency (Whetten, D., Cameron, K. 2007: 335).

The "Three Factors" model is based on Victor Vroom's 1964 "Work and Motivation". Vroom assumed that the old model that had been used as a prerequisite for centuries before, and according to which a well-paid employee was pleased and motivated to make the effort to reach the working effect of the defective. The historical model that was rejected was based on the next logical assumption:

satisfaction → motivation → work performance

Vroom changed the *"Three Factors"* model and put another assumption in his "Theory of Expectations": *"the worker will invest more effort in carrying out activities when he expects more effort to make better results, and for the results a compensation that compensates for the effort."*Vroom's theory of expectations is based on the cognitive process of expectation of just compensation. Vroom assumed that motivation was influenced by three elements: expectation, instrumentality, and valence. According to Vroom, expectation is the belief that increased work effort will result in better efficiency. Instrumentality is a prerequisite for better performance to be judged fairly. Valence is the importance that a worker attaches to work performance awards. Vroom's cognitive process of perception of theory of expectancy could be logically represented:

expectation → instrumentality → valence
or

motivation → work performance → award.

Vroom’s theory of expectations was tried to be upgraded many theorists of psychology of work and management. Lyman Porter and Edward Lawler made significant progress. Porter and Lawler in their work from 1967 *"Antecedent Attitudes of Effective Managerial Performance"* argue that work motivation and work performance are influenced by many more factors than three factors (preferences, resources, knowledge ...).However, one factor is particularly important: satisfaction. Although Lawler and Porter did not explicitly mention worker satisfaction, they described the underlying hypothesis of their theory of expectations in the following way (Lawler, E., Porter, l. 1967.):„*The higher the value of the expected prize pool and the greater the likelihood of receiving awards depends on the effort, the greater the effort will be invested in specific activity*“. Lawler and Porter also assume that low perceptions of rewards lead to less effort, and greater perception of rewards with more effort. In other words, if a worker does not perceive the prize as valuable, he will not make enough effort to achieve the effect and reach the prize. Reaching the expected prize results in satisfaction. With the fourth important factor (pleasure), the underlying model of "three factors" became the "four factors" model and got the next logical structure:

motivation → work performance → reward → satisfaction.

The newer model of "four factors" could be interpreted in such a way that for the invested effort the worker expects a work effect that can be measured objectively and receives compensation for it, which has a positive impact on employee satisfaction, after which the worker does not diminish the

level of effort in execution of other tasks, because his expectations are based on the same assumptions.
In modern management, the theory of expectation takes on a very important, central place in the philosophy of work compensation. Whetten and Cameron are upgrading Vroom's and Porter-Lawler's model and conclude:
„*Various organizational scholars (Gerhart, 2003; Steers, Porter, Bigley, 1996; Vroom, 1964) have summarized the determinants of task performance as follows:*

Performance = Ability x Motivation (Effort)

where:

Ability = Aptitude x Training x Resources

Motivation = Desire x Commitment

According to these formulas, performance is the product od ability multiplied by motivation, abilitiy is the product of aptitude multiplied by training and resources, and motivation is the product of desire and commitment. The multiplicative function in these formulas suggest that all elements are essential. "(Whetten, D., Cameron, K. 2007: 331).

Whetten and Cameron (2007: 355) suggest that the integrative model of "four factors" is complemented by other elements of the model, or in the logic of the relationship between motivation - performance - reward - satisfaction, suggesting the following elements:

a. between the relationship of motivation → performance:
   i. ability (aptitude x training x resources) and
   ii. goals (accepted, challenging, specific and measurable)
b. between relationship performance → rewarding:
   i. reinforcement (spontaneous reward and discipline)
c. between the relationship rewarding → satisfaction
   1. fairness (comparisons with other companies and personal expectations)
   2. special circumstances (sensitivity to employee's personal needs),
   3. timeliness (rewarding in shorter periods).

According to Whetten and Cameron (2007: 337) some research shows that organizations that set targets before the organizational unit achieved better performance indicators. That is why companies need to integrate in a professional way the "goal setting process". Goals that are set to influence work motivation must be:

a. specific,
b. measurable,
c. unambiguous,
d. encourage positive thinking and
e. consistent within organizations for different groups and individuals.

More recently in the literature of modern management, authors in the chapters of work motivation refer to extrinsic forms of motivation and create a phenomenon known as *"extrinsic organization of work"*. It is worth mentioning two parts that have influenced the more contemporary view of linking organization theory, accounting theory, and theory of work motivation. The first work is *"Self-Determination Theory and theFacilitation of Intrinsic Motivation,Social Development, and Well-Being"* by Richard Ryan and Edward Deci, who are creators of the well-known SDT theory (Self - Determination Theory). Ryan and Deci (2003: 72) consider that motivation of an individual is motivated by circumstances in a given time period. In such circumstances, an individual is under his own control or under external regulation. The source of regulation determines its behaviour. Ryan and Deci recognize three basic forms of motivation:

1. lack of motivation – a tendency towards deviant behaviour,
2. extrinsic motivation - regulation with a certain degree of external influence
3. intrinsic motivation - self-regulation without external influences.

Intrinsic form of motivation for work is a rare occurrence. The trait of intrinsic motivation for work is that a worker carries out activities towards which he has a strong tendency and pleasure, to work for his personal benefit and that he has a high degree of autonomy, trust and responsibility. Since the work organization is always to some extent formalized, the worker adjusts to the work procedures and responsibilities that he or she carries out. Because of such circumstances, intrinsic work motivation is within the limits of formalized organizational structures.

Management is facing a huge challenge. In modern strategic and operational management models, there is a growing need for enterprises to innovate in organization and work processes. Innovation requires the use of all intellectual capacities of the organization, inexhaustible assets in a proactive manner. However, the innovation launched by the organization's proactiveness and formalization is in collision. It can be safely stated that there is no innovative and proactive application form and model of work organization. On the contrary, the management of each enterprise needs to build an extrinsically motivating work organization that is capable of continuous improvement of the process. There is nothing left to managers except to be guided by principles in the process of designing organization and management systems.

The extrinsic organization of work is influenced by a certain degree of external regulation. The regulation refers to setting goals in front of employees, measuring goals and rewarding. However, not every form of extrinsic motivation for work is desirable in the enterprise. Tremblay, Blanchard, Taylor et al. (2009: 214) based on Ryan - Deci SDT theory and four forms of extrinsic motivation prove that only two of the four forms of such motivation are desirable for management:

1. external regulation - motivation solely for rewards and fear of punishment, exclusively externally regulated
2. introjected regulation - motivation for the ego or fear of failure, largely externally regulated
3. identified regulation - motivation triggered by the importance of specific tasks for an organization or an individual, sometimes externally regulated
4. integrated motivation - motivation triggered by the importance of results that enables an employee to achieve some other value, internally regulated, very similar to intrinsic motivation.

The difference between extrinsic integrated motivation and intrinsic motivation is that the worker with integrated motivation has the pleasure of doing the activity because of the result that allows some other value that the worker strives (e.g., professional advancement because of the possibility of advancement), while in intrinsic motivation the worker is satisfied for doing the same activities (e.g. professional training for intrinsic curiosity, without specific expectations). Tremblay, Blanchard et al. (2009) prove that only identified and integrated motivation for work is desirable, i.e. how to generate better performance. External regulation and introjected regulation require management to make great efforts to guide workers with such forms of motivation.

4. Discussion

This paper explores the field of psychology of work that relates to the factors of work motivation. Different theories and interpretative models of work motivation theory through the historical development of psychology of work look at the problem of work motivation from different perspectives and with different assumptions. The development of the narrower scientific field ranged from assumptions that people were born with certain preferences and as such should be able to guide them (X-Y model), up to the contemporary understanding that the behaviour of an individual in a work organization is constantly influenced by a significantly larger number of factors from the living and working environment. In this paper, the contribution of science is given through the overview method and the synthesis of the knowledge of different theories and interpretative models of behaviour in the recognition of the factors of work motivation that can be influenced by the systems of measurements of work efficiency and compensation of work.

According to McClelland-Murray theory of divergent needs, the most numerous group of workers that generates better work efficiency in a work organization are the workers that are driven by the need for success. The key feature of people motivated by success is the feedback request whether the activity was performed and the specific goal achieved.

According to Vroom's theory of expectations, the worker perceives that the effort is equal to the effect it produces and the reward is a just and valuable effort. Criticism of the vroom model is about perception. Vroom built his model in the 60s of the last century when human work was heavily represented in production and difficult to measure in the era of manual and machine data processing. Over the years, the theory of expectations has been upgraded and is present today in modern management. By computerization and automatic data processing, perception of workers is equated with the standardization of processes in enterprises that contribute to measurement and compensation systems. Expectations are becoming more objective and less subjective.

According to the Porter - Lawer model of expectations, satisfaction with the reward requires external regulation and objective approach to evaluation of results. Just as with Vroom, the critical variance is the expectation, the purpose of the measurement system is in the instrumentalization element, and the purpose of the compensation of work in the element of the awards valence.
According to the Herzberg model, measure instrumentation and fair compensation are part of the hygienic factors of the organization. Therefore, a worker cannot be motivated if management has not established a long-term viable performance measurement system and fair award allocation.

Whetten and Cameron build an integrative model of worker behaviour and suggest that the "four factors" model be complemented by other factors, for which the specific objectives and timeliness of rewarding at shorter intervals are relevant for this work, arguing that it is more important for a worker to compensate for better performance at shorter intervals. Short-term performance-based compensation based on specific goals requires powerful business performance measurement systems.

Trembley, Blanchard, and others, based on Ryan-Deci's theory of intrinsic and extrinsic motivation, prove in their research how desirable forms of work motivation are identified regulation and integrated regulation. Both assume a high degree of self-regulation towards achieving the goal and rewards. The measurement system and the compensation system are supposed to be a priori to encourage these forms of work motivation, i.e. such forms of motivation are not sustainable in the organization without the objective knowledge of the work efficiency.
Findings in this study are based on logical synthesis of factors of work motivation from more interpretative model of work motivation. The basic conclusion is that business efficiency measurement and work-compensation measurements support key factors of multiple theoretical models, that is, these theories are complementary, although the models are different. However, the diversity of models is based on different assumptions that are not mutually exclusive.

Prerequisites for integrating efficiency measurement and compensation system in medium to large and large enterprises that were not managed by goals and measurement results:

1. part of the working population will in time show all the more obvious negative forms of work motivation (non-motivation and external regulation) and will show behavioural resistances to goals and measurements, the probability of leaving the company is likely to be explained by the fact that something is wrong in organization and measurements,

2. part of the working population will feel pressured and feared by set goals and measurements, will show totally passive behaviours, the company will remain as long as it can cover team results (introjected regulation),

3. part of the population of workers will show an increasing desire for personal construction and strong proactivity, behaviours will be aligned with goals and measurements will experience as a mechanism for achieving better results, not as a threat, through time will build new skills and knowledge that will encourage better results and competitiveness, their behaviour will be an example for other employees (identified regulation and integrated regulation).

The limitations related to this work relate to the analysis and synthesis of only minor and limited number of theories and theoretical models. Modern literature is witnessing an increasing and growing number of works in this area. Work includes some of the most famous work motivation theories present in modern management.
It is recommended to test quantitative and qualitative research methods (statistics and case methods) correlation between positive forms of work motivation (identifying and integrating regulation) and powerful systems of measurement of business efficiency and work compensation.

REFERENCES

Alderfer, C. (1977). *A critique of Salancik and Pfeffer's examination of need-satisfaction theories*. Administrative Science quarterly, 22: 658-672

Herzberg, F. (2000). *One more time: How do you motivate employees?*HBR. 53-62.

Lawler, E., Porter, L. (1967). *Antecedent Attitudes of Effective Managerial Performance.* Organizational Behavior and Human Performance 2, 122—142.

Maslow, A. (1970). *Motivation and personality*. New York. Harper & Row

McClelland, D. (1971). *Assesing human motivation*. New York. GLP

McGregor, D. (1960).: *The human side of entreprise*. New York. McGraw-Hill

Mulcahy, R. (2013). *PMP Exam Prep*.

Porter, L. Bigley, G., Steers, R., (2003). *Motivation and Work Behavior*. Mcgraw-Hill. New York.

Ryan, M., Deci, E. (2000). *Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being.* American Psychologist. Vol 55, No 1, 68-78

Tremblay, M., Blanchard, C., Taylor, S., i dr. (2009). WEIMS: its Value for Organizational Psychology Research. Canadian Journal of Behavioral Science. Vol 41, No 4, 213-266.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

Whetten, D., Cameron, K. (2007). *Developing Management Skills*. New Jersey. Upper Asddle River.

Emina Jerković, PhD, assistant professor
Faculty of Law
Josip Juraj Strossmayer University in Osijek
Department of Financial Science
Radićeva 13, 31000 Osijek, Croatia
Mobile: (00 385) 091 224 5507
E-mail address: ekonjic@pravos.hr

LIFELONG LEARNING IN THE FUNCTION OF DEVELOPMENT OF EASTERN CROATIA

CJELOŽIVOTNO UČENJE U FUNKCIJI RAZVITKA ISTOČNE HRVATSKE

ABSTRACT

In order to be competitive in the knowledge market, in today's modern times, which is both a time of constant change and great insecurity, we need to be prepared for the challenges ahead. The only way any of us can achieve this is - lifelong learning. According to the Lisbon Declaration, lifelong learning is the basic way of creating a knowledge society which represents the foundation of economic progress.
The main objective of this paper is to emphasise the significance of lifelong learning in all of its forms as well as the growing problem of financing such learning in the Republic of Croatia. Despite the existence of many legal regulation, lifelong learning has not stabilized so far as is needed because of lack of funds to the students themselves that ultimately have to bare most of the burden of financing. The paper will also present positive examples of lifelong learning that succeeded in the area of Osijek.

Key words*: lifelong learning, sources of financing, EU directives and regulations, education of adults.*

SAŽETAK

Da bismo bili konkurentni na tržištu znanja, u današnje suvremeno doba, koje je i ujedno i doba stalnih promjena te velikih nesigurnosti, potrebno je biti spreman na izazove koji su pred nama. Jedini način na koji to itko od nas može postići jest – cjeloživotno učenje. Prema Lisabonskoj deklaraciji cjeloživotno učenje je osnovni način stvaranja društva znanja na čemu se temelji ekonomski napredak.
Glavni je cilj rada naglasiti važnost samog cjeloživotnog učenja u svim njegovim oblicima kao i sve veći problem financiranja takvog učenja u RH. Unatoč postojanju mnogih zakonskih regulativa, cjeloživotno učenje nije zaživjelo u onom opsegu u kojem je trebalo upravo zbog manjka financijskih sredstava samih polaznika na koje u konačnici pada veći dio tereta financiranja. U radu će također biti prezentirani pozitivni primjeri cjeloživotnog učenja koji su zaživjeli na području grada Osijeka.

Ključne riječi*: cjeloživotno učenje, izvori financiranja, direktive Europske Unije, obrazovanje odraslih.*

1. Introduction

One must not ignore the fact that adult education has become more important than ever before. The contemporary education strategy is based on the principle of lifelong learning, stimulated by the fact that the amount of new knowledge increases at a high speed, and the knowledge gained in the traditional education system is outdated and insufficient to the needs of the individual and the community.
In order to be competitive in the knowledge market, in today's modern times, which is both a time of constant change and great insecurity, we need to be prepared for the challenges ahead. The only way any of us can achieve this is - lifelong learning. According to the Lisbon Declaration, lifelong learning is the basic way of creating a knowledge society which represents the foundation of economic progress.

2. The concept of lifelong learning

There is a question as to how to distinguish between lifelong education and lifelong learning. We must emphasize that the term lifelong learning is much wider and that it includes lifelong education in its scope. There are three types of learning:
1. Formal Education / Lifelong Learning - Lifelong Education implies the attendance of institutions which, after completing their studies, issue a diploma to the student as a document proving that the student has acquired certain knowledge. Hence, lifelong learning can be equated with formal learning.
2. Informal education / learning that takes place beyond the regular educational system (primary, secondary school ...) and consequently no acquisition of documents in the form of certificates and diplomas. It can be organized in the workplace and through the activities of various societies or associations such as youth organizations, trade unions or political parties, or through organizations and services that serve as a supplement to a formal education system such as music schools, sports clubs or private lessons as preparation for taking the exam .;
3. The informal learning we encounter in our daily life is at a conscious or unconscious level.

Therefore, lifelong learning is a complete term that covers all levels of knowledge acquisition through all educational institutions at all times of life. Formal education determines a policy that influences the attitude of people about what is considered as learning by their influence and examples. However, as far as lifelong learning is concerned, informal education / learning is much more emphasized, as is confirmed by the fact that today's unavoidable computer technology has previously been housed in households rather than in schools (institutions where formal learning takes place).(Perić, 2010, 285)
Infrastructure of adult education/learning in developed western countries, especially in the EU countries, is sine qua non of successful and diverse practices of education and learning. It is characterized by clearly defined legal regulations, regulated rights and obligations of financing by state, regional and local structures and funds, a network of institutions, associations and foundations that realize the programs and tasks of adult education and learning, and is characterized by a transparent evaluation practice the effects of adult education / learning, both at the scientific level in a number of research and development projects, as well as on a practical level. (Bogdanović, 2001).

3. Adult learning system in Croatia

The Republic of Croatia implements European education policy (Lifelong Learning 2002, Recommendation of the European Parliament and of the Council of 2008 on the establishment of the European Qualifications Framework for lifelong learning), and lifelong learning is included in the policy documents of the educational policy. Strategy for Education, Science and Technology that clearly defines lifelong learning as a concept that refers to all activities of acquiring knowledge, skills, attitudes and values throughout life with a view to their adoption or expansion in the context of personal, social or professional development and action of an individual . The essence of the concept of lifelong learning is the adoption of key competencies that represent a portable, multifunctional set of knowledge, skills and attitudes that each individual needs for his/her personal fulfillment and development, social inclusion and employment. Adult education is accepted as an important component of lifelong learning and within the adult education system it is necessary to develop and run formal and informal education, training and training programs and to offer various forms of learning aimed at achieving the two main goals: 1) acquiring transversal competences of an individual for 2) to acquire knowledge and skills that aim at employability.[1]

As the activity of implementing European education policy and promoting adult education and lifelong learning in Croatia with special emphasis on unqualified and poorly qualified citizens, the Ministry of Science, Education and Sports will implement the EU Implementation Agenda for Adult Education from 2012 to 2012 as part of the Grundtvig lifelong learning program, and since November 2014, the Erasmus + European Commission's Executive Agency for Audiovisual Activity and Culture (EACEA). Projects are primarily implemented and promoted by the Council of the European Union Resolution on the renewed European Adult Education Strategy (2011 / C 372/01), but special attention is also paid to linking and networking stakeholders in the adult education system at the local and national level. The implementation of the Recommendation of the European Parliament and of the Council on key competences for lifelong learning (2006/962 / EC) promotes the acquisition of key competences for lifelong learning, with particular emphasis on unqualified and poorly qualified Croatian citizens, as a basis for further personal and professional development. Within the original two-year EU Implementation Agenda 2012-2014 project The Ministry has issued Recommendations on the Quality of an Adult Education and Lifelong Learning System in the Republic of Croatia, which, among other things, make a Proposal for a Competence Model for Primary Adult Education.

Although on December 31, 2012, the Ministry of Science, Education and Sports Croatia's Literacy Project - A Way to the Desirable Future: The Decade of Literacy in Croatia 2003 - 2012 was completed by the Ministry of Science, Education and Sports The importance of the project continued to fund elementary adult education. Pursuant to the aforementioned documents and guidelines, both European and national policies, in the forthcoming period by 2017, the Ministry will implement the EU Agenda for Adult Education 2015-2017. strive to develop a program of elementary adult education that will be based on the concept of key competencies. Namely, the Republic of Croatia has already taken over the European Framework of Key Competencies and has incorporated it into the relevant education policy documents: National Framework Curriculum (MZOS, 2011) Croatian Qualifications Framework (MZOS, 2013) for the Education, Science and Technology Strategy (Croatian Parliament, 2014). [2]

3.1. Adult Education Policy and Law Enforcement

In Croatia there is not so much the problem in the offer itself in the education market but in the traditional approach to education itself. When it comes to lifelong learning, there are a number of categories of people responding to that profile. We are talking about secondary, high and higher education of adults, education of employees, education of the unemployed, education of veterans and particularly vulnerable education of retired people. Although it sounds like a paradox, those who are more educated are more likely to seek further education and are involved in new learning

---

[1] Nove boje znanja- Strategija obrazovanja, znanosti i tehnologije. https://vlada.gov.hr/UserDocsImages//2016/Glavno%20tajni%C5%A1tvo/Materijali%20za%20istaknuto/2014/Strategija%20obrazovanja%20znanosti%20i%20tehnologije//Cjelovit%20sadr%C5%BEaj%20Strategije%20obrazovanja,%20znanosti%20i%20tehnologije.pdf p. 197.

[2] Agencija za strukovno obrazovanje i obrazovanje odraslih, http://www.asoo.hr/default.aspx?id=659

processes, as opposed to less educated, who would have a greater need for further learning in every logic. Hence, the highly educated population is the main driving force in the "knowledge society".

At the time when the Republic of Croatia entered into negotiations with the EU, it also committed itself to harmonizing its legal regulations with EU regulations and thus committed itself to the development of the education system and to the alignment with "Building a European Area of Lifelong Learning", a document adopted by the European Commission by which the whole EU has agreed upon.

Adult education is nowadays partly regulated by legislation in Croatia: Law on upbringing and education in primary and highschool[3], which contain specific chapters governing the activity, forms of performance,institutions authorized to carry out activities of education. The institutional framework for adult education is provided by the Law on Folk Public Colleges[4], adopted in 1997, regulating the activity, establishment, organization and the implementation of the Institution Act[5].

The concept of lifelong learning has also been promoted in numerous documents of our education policy - for example: in the White Paper on Croatian Education[6], the Plan on developing system of upbringing and education 2005-2010[7], in the Strategy for Vocational Education System Development 2008 - 2014, Adult Education Strategies[8] and the Adult Education Act. The Declaration on Knowledge of the Croatian Academy of Sciences (2002) and the Croatian Academy of Sciences Declaration on Knowledge - Croatia based on Knowledge and Knowledge Implementation (2004)[9] also refer to the need for lifelong learning and education.

Educational infrastructure in the Republic of Croatia follows the European trends. Today, in Croatia, adult education, as a regular activity or as a regular activity, is dealt with:

- folc public faculties (public and private),

- primary and secondary schools that implement adult education programs,

- higheh education schools,

- education centers in businesses,

- all sorts of private schools (eg foreign languages),

- driving schools,

- professional associations and organizations,

- non-governmental organizations and organizations,

- political parties,

- employers' associations,

- unions,

- schools for retired people,

[3] Law on upbringing and education in primary and highschool, NN 87/2008, 86/2009, 92/2010, 105/2010, 90/2011, 5/2012, 16/2012, 86/2012, 94/2013, 152/2014, 7/2017
[4] Law on Folk Public Colleges NN 54/1997, 5/1998, 109/1999, 139/2010
[5] Institution Act NN 76/1993, 29/1997, 47/1999, 35/2008
[6] http://www.see-educoop.net/education_in/pdf/bela_knjiga-cro-hrv-t02.pdf
[7] http://www.zakon.hr/z/384/Zakon-o-obrazovanju-odraslih
[8] http://public.mzos.hr/lgs.axd?t=16&id=15672
[9] http://euapp.weebly.com/uploads/1/2/8/2/12824638/deklaracija_o_znanju.pdf

- religious institutions,

- foreign institutions, schools and organizations.[10]

However, when this infrastructure is applied to informal education and learning, various difficulties arise. The biggest and primary problem is the financing of lifelong learning.

4. Financing of lifelong learning

Fiscal policy is one of the biggest problems of adult education. Funds for funding and encouraging adult education are provided in the state budget, budgets of local and regional self-government units, directly from participants and employers and from other sources in accordance with the law.[11] However, everything is reduced to the fact that the cost of your education is borne by either the individual or the employer (if it is about acquiring professional knowledge).

According to the survey on competiteveness of labour force, companies in the Republic of Croatia invest in the competitiveness of their employees far below all the world and European standards.

Table 1 *Sources of financing of education*

FINANCING OF EDUCATION	f	%
OWN CAPITAL	60	54,05
EMPLOYER	21	18,92
OTHER SOURCES	30	27,03
TOTAL	111	100

Source: Arlin Gobo (2009), "Cjeloživotno učenje u funkciji povećanja zapošljivosti nezaposlenih osoba"

Of the total number of respondents involved in some form of education (111), 54.05% of them education financed the education by own funds while the employer financed education for only 18.92% of respondents. For 27.03% of respondents, education was funded from some other sources (Employment Service, local government units, self-government, associations) or it was free. The result of the comment is certainly one that indicates that less than 1/5 of the respondents were included in the education program funded by the employer. In the modern concept of human resource management where every company should invest in the development and learning of its employees, the results show a completely different picture.(Perić et. al., 2010, 1601).

It is not helped by the fact that the status of adult education institutions is not resolved in line with EU guidelines, and thus they are taxpayers of corporate income tax and value added tax that greatly complicates and increases the lifelong learning process itself.

Over the past three years, funding from the state budget that was paid to the Adult Education Agency was not consistent. They varied from HRK 7,550,215.00 to HRK 13,526,491.00. Given the current state of crisis, not only in the Republic of Croatia, but also in the whole world, it is not to be expected that the funds from the budget will increase considerably. It is more likely that it will decrease.

It is necessary to foresee ways of avoiding unfair competition between providers of accredited adult education programs, which may be the result of running programs under more or less privileged conditions. For example, unlike private bidders, public space is used and equipment that is mostly

[10] Strategija i akcijski plan obrazovanja odraslih, srpanj 2004.,http://public.mzos.hr/Default.aspx?sec=2250

[11] Law on Adult Education NN 17/07, 107/07, 24/10

financed from public funds, so it is necessary to determine the commercial cost of performing such programs under which programs should not be offered.[12]
It is important to define co-ordination procedures among the various competent ministries, state and local bodies, identify funding programs, direct funding from national and local budgets according to community priority criteria, co-ordinate funding and efficient spending.

It is necessary to propose an optimal model of financial incentives for individuals and employers on the basis of an analysis of the feasibility and justification of introducing the following modes of financial incentives and facilitations:

-the personal education account and voucher model that is (co)funded by state or local community for adult education

- free days for educated employees

-tax deductions for individuals to acquire basic competencies

-credit for adult education, in agreement with the social partners

- founding a fund for training, upbringing and adult education.[13]

5. A positive example of lifelong learning in the function of development of Eastern Croatia

The European Personnel Selection Office (EPSO) of the European Commission announced job opportunities on the European labour market with the prospect of Croatian full membership in the EU in July 2013. According to the data of December 2012, the European Union needed translators, interpreters, lawyer linguists, administrators, heads of departments and other officials in the field of Communication, Legal Affairs and Programme Management in the offices of the European Commission, the Court of Justice of the EU and other institutions whose employees should master both legal and linguistic knowledge. As a response to new job opportunities for Croatian lawyers, Departments for Foreign Languages of the Faculty of Law in Zagreb and in Osijek initiated their Lifelong Education Programmes for Lawyer Linguists: the former in the summer semester of the year 2011/12 and the latter in the winter semester 2012/13. This training program is approved by the Senate of the University of JJ Strossmayer in Osijek, and developed in consultation with lawyers-linguists from the Council of the EU and based on the experience of the implementation of a similar program at the Faculty of Law in Zagreb. Participants will gain insight into the issues of legal translation and editing of legal texts as well as the knowledge and skills needed to translate legal texts into the Croatian language and to establish and update the acquired knowledge of the law and institutions of the EU.

The program is intended for graduate jurisprudence and law graduates to pursue their knowledge and skills in the English and German language of law and enable them to acquire basic knowledge and skills in French in order to strengthen their competitiveness in the labor market as Croatia and the European Union.[14]

With the accession of the Republic of Croatia to the European Union, the need for a new profile of employees to be employed in EU institutions has begun. This is particularly about lawyers for

[12] Nove boje znanja- Strategija obrazovanja, znanosti i tehnologije. https://vlada.gov.hr/UserDocsImages//2016/Glavno%20tajni%C5%A1tvo/Materijali%20za%20istaknuto/2014/Strategija%20obrazovanja%20znanosti%20i%20tehnologije//Cjelovit%20sadr%C5%BEaj%20Strategije%20obrazovanja,%20znanosti%20i%20tehnologije.pdf p. 209
[13]https://vlada.gov.hr/UserDocsImages/2016/Glavno%20tajništvo/Materijali%20za%20istaknuto/2014/Strategija%20obrazovanja%20znanosti%20i%20tehnologije/4.%20Cjeloživotno%20učenje.pdf
[14] http://www.pravos.unios.hr/strucno-usavrsavanje-za-pravnike-lingviste-08-06-2015

linguists, translators and other officials with excellent foreign language knowledge. In the media and on the European Commission website, there is a need to recruit Croatian employees, ie legal and linguistic experts who are well-versed in Croatian. The conditions set by the European Commission for the employment of Croatian lawyers in the EU are the diploma of one of the legal faculties in the Republic of Croatia, a good knowledge of EU law and institutions, excellent knowledge of the Croatian language and very good knowledge of at least two official languages of the European Union, especially English, German and French .

As there is still a need for these professions, as well as the fact that knowledge of foreign languages for lawyers is one of the most important competencies of lawyers, which strengthens their competitiveness in the labor market in Croatia and throughout the European Union, the Faculty of Law in Osijek continues to implement the Program of professional training for legal practitioners.

The program is organized within the concept of lifelong education, lasts one semester, and is conducted by professors of foreign languages, Croatian language and European law. The target group consists of graduate lawyers or law-abiding lawyers who are good in English and German and who want to apply for lawyers, civil servants or administrators in EU institutions, as well as export-oriented or international business contacts in the Republic of Croatia.

Altogether 22 ECTS credits were allocated to the Programme, the maximum credit number that can be achieved by individual participant being 18. It encompasses seven courses with altogether 170 teaching hours. The Programme was offered in the winter semester of 2012/2013 to graduate lawyers and 5th year law students and was financed by a participant fee payable in instalments. The Programme was initially introduced to meet demands of the EU institutions for skilled legal translators, but today the target group comprises young lawyers with good foreign language skills who are interested in finding jobs in different EU institutions and/or international companies, due to diverse job opportunities offered to Croatian lawyers on the EU market. The programme is mostly carried out by FL teachers teaching at the Faculty of Law in Osijek, but also by guest professors from the Faculty of Humanities (for the courses Croatian Language for Lawyer Linguists and Introduction to French Legal Translation).[15]

The programme carried out in Osijek includes the following courses:

1) Introduction to the Theory of Legal Translation and Terminology

2) Croatian Language for Lawyer Linguists

3) Introduction to the EU Law

4) Introduction to French Legal Translation

5) EU Vocabulary and Online Language Tools

6) Exercises in Legal Translation – English Language

7) Exercises in Legal Translation – German Language.

All participants have been trained in legal translation in three languages: English, German and French[16]. The knowledge of these three working languages of the EU is required in most jobs announced on the website of the European Personnel Selection Office.[17]

[15] http://www.pravos.unios.hr/strucno-usavrsavanje-za-pravnike-lingviste-08-06-2015

[16] As most participants do not speak French, Introduction to French Legal Translation is an obligatory course focused on teaching general communication in French including some basic legal terminology.

This year, therefore, based on experiences of our former attendants who applied for positions in EU institutions or international companies, we have introduced trainings in oral interviews in the last four hours of these courses, because oral interviews conducted by the employer represent an integral part of employment procedure in Europe. Accordingly, from this year on, participants are informed in the first session within the Programme about the employment procedure in EU institutions by a FL teacher who experienced all the stages of job application procedure carried out by the EPSO.

In the first term (the year 2012/2013), 25 participants were included in this Programme, in the second 18 participants. In this academic year (2014/2015) we have enrolled 10 participants. By now 74 participant graduated successfully. The reduced number of participants can be seen as a result of the economic crisis and the fact that most of them are unemployed.

6. Conclusion

Lifelong learning is the only successful strategy for successfully coping with ever-changing changes in science and technology and generally with changes in all areas of modern life. It is unimaginable for the modern age to stop teaching man by the end of regular education. Learning should continue throughout the entire life cycle through various forms of not only formal but informal education as well as informal learning. All groups of the population should be covered by lifelong learning, and that is why it is the financing problem that needs to be further elaborated. Politics, economics and education need to be complemented.

It is necessary to define priority adult education programs, ie the priority qualifications they receive and the ways of their financial support from public funds of the state budget or EU funds. Participants will only be co-funded by those programs that are required in the labor market or are important for predictable needs. The planning and direction of financial investments and incentives needs to be improved through better identification of proposed projects and financing of programs of importance for the community, ie participants of such major programs. Although funding for adult education programs and projects has increased, it is still virtually impossible to get reliable an overview of the total amount and structure of these expenditures. This applies in particular to the levels of local and regional government and self-government. Planned and allocated funds for adult education are not presented under the Ministry of Education Science and Sport and / or the Vocational Education and Training Agency but are included in other ministries and bodies. There are various forms of adult education financing in Croatia, which are recorded in the Adult Education Act, but this law does not specify the obligations of individual financiers.[18]

As a possible supplement to the current model of lifelong learning funding (through the state budget, the budget of the local self-government units and most from the participants themselves), the funds of the EU and the World Bank should be further explored as a rich source of financial resources.(Perić et al., 2010, 1603).

REFERENCES

Bogdanović, S. et. al. (2001): ***Razvojni model pučkog otvorenog učilišta***, HZPOU, Hrvatska zajednica pučkih otvorenih učilišta

---

[17] Retrieved from http://europa.eu/epso/apply/jobs/temp/index_en.htm#chapter2 , accessed 28/02/2015,

[18]https://vlada.gov.hr/UserDocsImages/2016/Glavno%20tajništvo/Materijali%20za%20istaknuto/2014/Strategija%20obrazovanja%20znanosti%20i%20tehnologije/4.%20Cjeloživotno%20učenje.pdf

Gobo, A.(2009): ***Cjeloživotno učenje u funkciji povećanja zapošljivosti nezaposlenih osoba***, Neformalno obrazovanje i informalno učenje odraslih, Zbornik radova 4. međunarodne konferencije Neformalno obrazovanje i informalno učenje odraslih. Zagreb, Hrvatsko andragoško društvo, pp. 309-327.

Perić, R. (2010): ***Izvori financiranja cjeloživotnog učenja,***inZbornik radova u povodu 80. godišnjice života prof. emeritusa Božidara Jelčića, Visoka poslovna škola Libertas Zagreb, Zagreb, pp. 267-283

Perić, R. et al.(2010):***Mogućnost financiranja i pravna regulativa cjeloživotnog učenja***, 2nd International Conference "Vallis Aurea" Focus on: Regional development, Požega-Vienna, Croatia-Austria, 2010. pp.1597.-1603.

Agencija za strukovno obrazovanje i obrazovanje odraslih, http://www.asoo.hr/default.aspx?id=659(accessed 19 March 2018)

Nove boje znanja- Strategija obrazovanja, znanosti i tehnologije. https://vlada.gov.hr/UserDocsImages//2016/Glavno%20tajni%C5%A1tvo/Materijali%20za%20istaknuto/2014/Strategija%20obrazovanja%20znanosti%20i%20tehnologije//Cjelovit%20sadr%C5%BEaj%20Strategije%20obrazovanja,%20znanosti%20i%20tehnologije.pdf (accessed 20 March 2018)

Institution Act NN 76/1993, 29/1997, 47/1999, 35/2008

Law on Adult Education NN 17/07, 107/07, 24/10

Law on upbringing and education in primary and highschool, NN 87/2008, 86/2009, 92/2010, 105/2010, 90/2011, 5/2012, 16/2012, 86/2012, 94/2013, 152/2014, 7/2017

Law on Folk Public Colleges NN 54/1997, 5/1998, 109/1999, 139/2010

Strategija i akcijski plan obrazovanja odraslih, srpanj 2004., Dostupno na: http://public.mzos.hr/Default.aspx?sec=2250(accessed 20 March 2018)

http://www.see-educoop.net/education_in/pdf/bela_knjiga-cro-hrv-t02.pdf(accessed 15 March 2018)

http://public.mzos.hr/lgs.axd?t=16&id=15672(accessed 27 March 2018)

http://euapp.weebly.com/uploads/1/2/8/2/12824638/deklaracija_o_znanju.pdf (accessed 18 March 2018)

https://vlada.gov.hr/UserDocsImages/2016/Glavno%20tajništvo/Materijali%20za%20istaknuto/2014/Strategija%20obrazovanja%20znanosti%20i%20tehnologije/4.%20Cjeloživotno%20učenje.pdf(accessed 25 March 2018)

http://www.pravos.unios.hr/strucno-usavrsavanje-za-pravnike-lingviste-08-06-2015(accessed 20 March 2018)

http://europa.eu/epso/apply/jobs/temp/index_en.htm#chapter2(accessed 10 March 2018)

Sanja Knežević, PhD
College of Slavonski Brod
Dr. Mile Budaka 1, 35 000 Slavonski Brod, Hrvatska
Phone: 035-492-805, Fax: 035-492-804
E-mail address: sanja.knezevic@vusb.hr

THE MOST ATTRACTIVE DESTINATIONS OF CROATIAN EMIGRATION

NAJATRAKTIVNIJE ZEMLJE HRVATKOG ISELJENIŠTVA

ABSTRACT

The Croatian people are displaced to all five continents and have more than 3 million emigrants and descendants. It is very difficult to identify the exact number of Croatian emigrants because the data were not collected at all stages of emigration.However, the estimates indicate that almost the same number of Croatians living in Croatia live outside Croatia as well as in their homeland. Although most of the emigrants went hoping to return and considered their exile only temporary, most of them were permanent relocations to the new country.

The main problem of Croatian emigration is the problem of emigration monitoring, poor written evidence, poor communication or the isolation of emigrants from the country of origin. By the end of the 20th century and by creating Croatian state independence, it was realistic to expect that emigration trends in Croatia would decline, but because of economic and economic reasons, emigration continued.

Over the last decade, from Croatia emigrate more and more of its population, mostly in more developed countries of the world.The citizens of Croatia go to other countries in search of a better life. In this emigration in search of a better life and job, a special problem is young people. The issue of retention and retention of young and highly educated people is one of the most important issues of the Republic of Croatia and its resolution should be a priority before solving all the other problems. As the number of migrants increases, so the countries that receive them increase the immigration requirements, however, developed countries continue to improve the conditions for attracting highly educated, young and highly motivated people for work by offering them certain benefits.

The aim of this paper is to show the most attractive destinations - countries of Croatian emigration through the waves of emigration. Particular attention is focused on the latest and the most recent wave of migration. In this study is included the analysis of the collected statistical data and survey, which was conducted among a representative sample of respondents, adults who have left the Republic of Croatia after the war, from 1996 to today.

Key words: *Emigration, Croats, World Countries, Croatia.*

SAŽETAK

Hrvatski narod je raseljen na svih pet kontinenata i ima više od 3 milijuna iseljenika i potomaka. Vrlo je teško utvrditi točan broj hrvatskih iseljenika iz razloga jer se nisu prikupljali podaci u svim fazama iseljavanja. Ipak procjene navode da izvan Hrvatske živi gotovo isto toliko Hrvata koliko ih ima i u domovini.Iako je većina iseljenika odlazila s nadom u povratak i svoje izbivanje smatralo samo privremenim, ipak je za većinu njih bilo to i trajno preseljenje u novu zemlju.

Glavni problem hrvatskog iseljavanja je problem praćenja iseljavanja, slabi pismeni tragovi te loša komunikacija ili izoliranost iseljenika od matične zemlje. Krajem 20. stoljeća i stvaranjem hrvatske državne neovisnosti bilo je realno za očekivati kako će emigracijski trendovi u Hrvatskoj opadati, no zbog gospodarskih i ekonomskih razloga emigracija je nastavljena.
Iz Hrvatske u zadnjih desetak godina iseljava sve više stanovništva, većinom u razvijenije zemlje svijeta.Građani Hrvatske odlaze u druge zemlje u potrazi za boljim životom. U tom iseljavanju u potrazi za boljim životom i poslom, poseban problem su mladi. Pitanje ostanka i zadržavanja mladih i visokoobrazovanih ljudi jedno je od najvažnijih pitanja Republike Hrvatske i njegovo rješavanje bi trebalo biti prioritetno pred rješavanjem svih drugih problema. Kako se broj migranata povećava, tako i zemlje koje ih primaju pooštravaju uvjete za useljavanje,ipak, razvijene države u pravilu nastavljaju poboljšavati uvjete za privlačenje visokoobrazovanih, mladih i visoko radno motiviranih ljudi, nudeći im određene pogodnosti.
Cilj ovog rada je prikazati najatraktivnijaodredišta-zemlje hrvatskog iseljeništva kroz valove iseljavanja. Posebna pažnja je fokusirana na zadnji i najnoviji val migracija.U ovo istraživanje uključena je analiza prikupljenih statističkih podataka i anketa, koja je provedena na reprezentativnom uzorku ispitanika, odnosno odraslih osoba koji su napustili Republiku Hrvatsku nakon domovinskog rata, od 1996. godine do danas.

Ključne riječi: *iseljeništvo, hrvati, zemlje svijeta, Hrvatska.*

1. Introduction

The Republic of Croatia is one of the European countries with the most prominent and longest-running emigration and it is considered as the traditional country of emigration.Reasons and motivations of emigration in the past were different from the historical, political, national and other circumstances that resulted in emigration.Croats have emigrated through certain periods in some countries. The emigration began in the 15th century (leaving the homeland because of Turkish occupation), and continued until today. Over the last decade, more and more people from Croatia have been emigrated.In this emigration in search of a better life and job, a special problem is young people. It is very difficult to identify the exact number of Croatian emigrants because the data were not collected at all stages of emigration. However, estimates indicate that almost the same number of Croatians live as foreigners as in their homeland.

2. Waves of emigration through the history

The largest waves of emigration were the following:„from 1880. to World War I in the United States, Latin America, South Africa, Australia, New Zealand, from 1918. to World War II in Germany, France, Belgium, late and just after theWorld War II in Argentina and other Latin American countries, North America, after 1965. in Western Europe, Australia, New Zealand and Canada and after 1990. in Germany, Switzerland, Austria, Canada, USA, Australia and New Zealand." (Državni ured za Hrvate izvan Republike Hrvatske)Emigration were both from the economic as well as political reasons. Emigration after 1990. characterized by a wave of refugees from war areas. The greatest number of those who once left their homeland has never returned to her.

3. Croatian emigration

Under different influences, Croats for centuries continuously emigrated to overseas countries, European countries and neighboring countries. According to the Law on Relations of the Republic of Croatia with Croats outside the Republic of Croatia "Croats outside the Republic of Croatia are:

- members of the sovereign and constituent Croatian people in Bosnia and Herzegovina,

- members of the Croatian minority in European countries (Croatian minority),
- Croatian emigrants in overseas and European states and their descendants (Croatian emigration / diaspora).”(Zakon o odnosima Republike Hrvatske s Hrvatima izvan Hrvatske)

According to the 1991 census “759 906 or 17.36% of Croats lived in Bosnia and Herzegovina and occupied a territory of 6392 km² or 12.49% of the territory of Bosnia and Herzegovina, with 13,44% of the population, ie 588,099 inhabitants of the Croatian mother tongue.” (Federalni zavod za statistiku BiH). Because of aggression and crimes committed in Bosnia and Herzegovina unlike other countries in the world, census wasn’t conducted in 2001., but only in 2013. According to unofficial results, it is estimated that Croats are slightly less, about 553,000 or 14,6%.
For different reasons Croats from the 15th century continuously emigrated to European countries which now have the status of a national minority.According to recent censuses and estimates, the numerical status of members of the Croatian national minority is approximately the following: “Austria about 50 000, Bulgaria about 1500, Montenegro from 7000 to 10 000, Czech Republic about 800, Italy about 3000, Kosovo about 350, Hungary about 50000, Macedonia about 4000, Romania about 7500, Slovakia about 4000, Slovenia from 35 000 to 54 000, Serbia from 150 000 to 200000.” (Ministarstvo vanjskih i unutarnjih poslova)
The status of members of Croatian national minorities is regulated in different countries (depending on the legislation of each country).

In addition to the term 'Croatian emigrants' often used the term 'diaspora', when talking about the Croatian emigrants in overseas countries, although many authors under the term means all the emigrants.According to estimates, the Croatian diaspora in the world covers about three million people, including direct emigrants and their descendants.Diaspora is an internationally recognized status of a member of a nation outside its home state, or a permanent resident in another country.“More than a million Croatians and descendants live in the United States and Canada. About 400,000 Croatians are in South America, and most in Argentina and Chile. Diaspora in Australia covers about 250,000 and in New Zealand some 40,000 members. In Western Europe there are most Croatians in Germany (about 350,000), followed by Austria (90,000), Switzerland (80,000), Italy (60,000), France (40,000) and Sweden (35,000).” (Leksikografski zavod Miroslav Krleža)
The most famous and largest organization of Croatian emigrants is the Croatian Fraternal Union in North America. In addition, there are other Croatian emigrant communities in different areas:
1. Western Europe (Switzerland, Austria, Italy, France, Sweden)
2. North America (Mississippi, California, Arizona, Nevada, Washington, Pennsylvania)
3. South America (Argentina, Chile, Brazil)
4. The Federal Republic of Germany (especially the provinces of Bayern and Baden-Württemberg)
5. Canada
6. Australia
7. South Africa

4. The last wave of emigration

Migration has become one of the key components of population change in the European Union. Due to high economic uncertainty that prevails in Croatia, especially in the last ten years since the country engulfed strong financial and economic crisis, Croatia is leaving more and more people. “Croatia is one of the few countries that is still affected by the global economic crisis that occurred after collapse of the market in 2008. Today's economy is characterized by a large number of companies that operates badly, many of them were liquidated, the scale unemployment is growing steadily, the level of high educated people is low, macroeconomic indicators are not satisfactory, etc.” (Duspara, 2016) These are just some of the reasons for emigration.

The latest data from the Central Bureau of Statistics confirm the further increased emigration from the country. However, the fact that these are not real data is worrying, as demographers estimate that the number of immigrants is twice as large as the number of people registered.The following table shows the emigrant population from the Croatia to the country of destination in the last current wave of emigration.

***Table 1** Emigrant population from the Croatia to the country of destination*

	2016.		2015.		2014.		2013.		2012.	
1.	Germany	20343	Germany	12264	Germany	7877	Serbia	3805	Serbia	3735
2.	Bosnia and Herzegovina	2696	Serbia	3235	Serbia	2902	Bosnia and Herzegovina	3580	Bosnia and Herzegovina	2641
3.	Austria	2134	Austria	3208	Austria	1964	Germany	2069	Germany	1765
4.	Ireland	1915	Bosnia and Herzegovina	2501	Bosnia and Herzegovina	1523	Austria	716	Austria	476
5.	Serbia	1532	Switzerland	1572	Switzerland	825	Switzerland	613	Italy	293

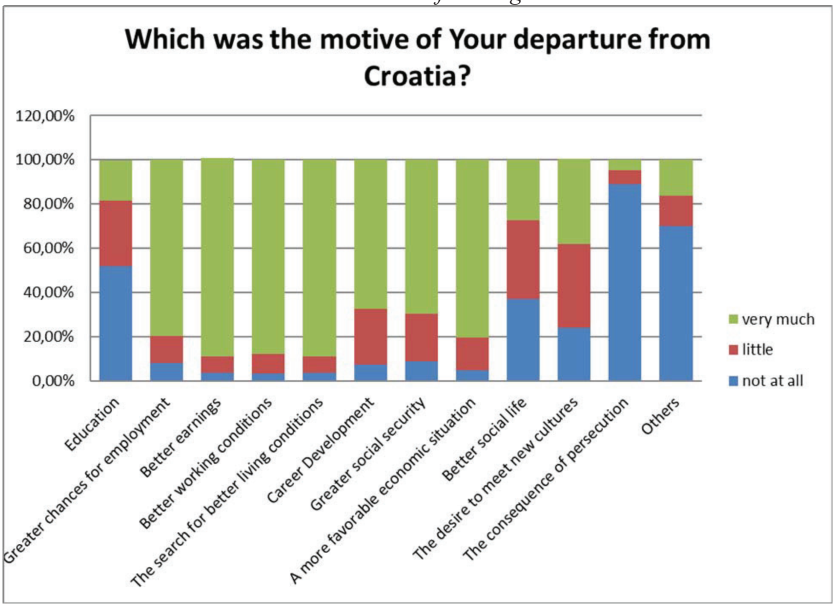
Source: Croatian Bureau of Statistics

Table shows top destination of Croatian emigration from 2012. - 2016. In 2012 and 2013 the top destination was Serbia, while from 2012-2016 it was Germany. After the crisis in 2008, Germany became the most attractive European country for emigrants. Germany is a specific country because many Croats have relatives and friends who live and work there, but also the German economy is in expansion. Besides "Croats are among the best integrated foreigners in Germany: have the highest quota of graduates, the highest rate of employment of women, mostly very good German language and have the lowest unemployment quota." (Hrvatska matica iseljenika http://www.matis.hr/index.php/hr/novosti/807-hrvati-medu-najbolje-integriranim-strancima-u-njemackoj) Croatian emigration over the past few years, accelerated, primarily because they stopped the previous restrictions on their activities in Germany. All that is probably the reason for the continuous emigration to Germany.A large leap of emigrants is recorded in Austria and Ireland particularly in 2016.Ireland is among the Croatian public was mentioned as a country very attractive for emigrants, however, the number of Croats who moved to Ireland is not large. Among the top 15 countries, coming from 'permanent' emigrants to Ireland, Croatia is not mentioned at all. Apart from the above, the other attractive countriesfor Croatian citizens are Bosnia and Herzegovina, Switzerland and Italy. However, Bureau of Statistics data cannot be the basis for determining the overall emigration, but they are a good indicator of the trend. Bureau of Statisticspublishes analysis based on data provided by the Ministry of the Interior, and the Ministry of the Interior has only data on those emigrants who duly rescind residence. For this reason, in the continuation of the work carried out research on the destinations of Croatian emigrants.

4.1. The results of the survey conducted with Croatian emigrants

The sample of entities is made up of 353 Croatian emigrants who, since the end of the homeland war, have emigrated to any country in the world since 1996. The sample consists of respondents who were older than 18 at the time of emigration, except for the age limit and the time of emigration, there were no other constraints on the entity selection. The sample is conveniently selected in a way that they are selected emigrants which the author so personal acquaintance, acquaintance or her friends. However, the sample size ensures satisfactory representativity. The survey was conducted through an emigrant survey to collect data on respondents' views on migration. The obtained results show that random selection resulted in a slightly higher number of males (52.7%) than women (47.3%). The chart below shows the motives of leaving the respondents from the Republic of Croatia.

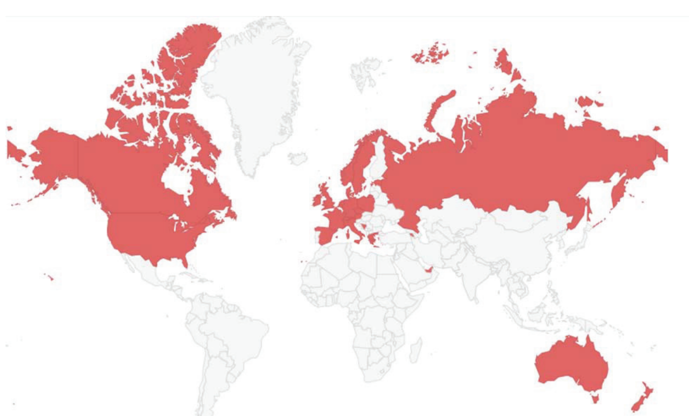
***Chart 1** Motivation of leaving Croatia*



Source: made by author

The results show that the largest motives departure from the Croatia are economic motives. The most influential motive for the respondents was better earnings (89.9%), search for better living conditions (89.2%), better working conditions (88.1%), more favorable economic situation (70.5%), higher employment opportunities (79.9%), higher social security (69.7%), and career development (67.4%). On the other hand, only 4.8% of respondents persecution (war) is the motive of leaving Croatia, other is a motive for leaving for 16.4% of respondents and for 18.4% of respondentsis education. The following figure shows the countries of the world most emigrated by the respondents.

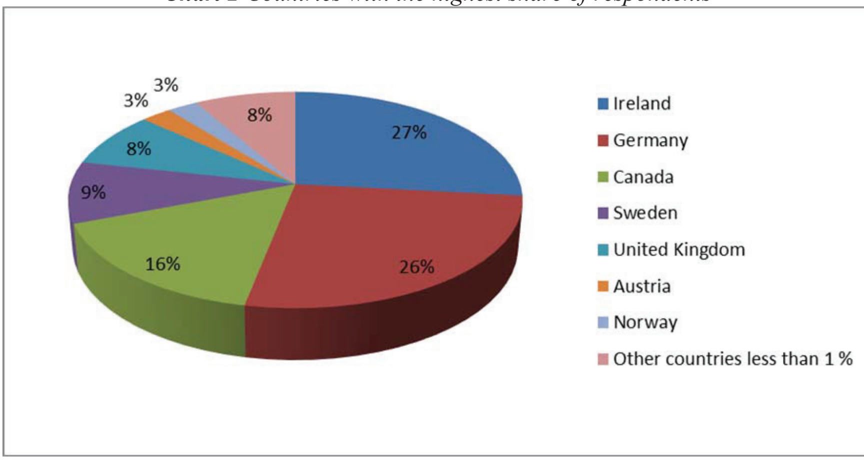
***Picture 1** Croatian Emigrants' Countries*



Source: made by author

The results obtained show the countries of the world emigrating the respondents. Surveyed respondents migrated to 24 countries, including Ireland, Sweden, Spain, Germany, Greece, Estonia, Austria, Armenia, Canada, Russia, United Kingdom, Switzerland, France, Norway, Netherlands, Australia, United States, Denmark, Czech Republic, New Zealand, Poland, United Arab Emirates, Italy, Bosnia and Herzegovina. The countries with the largest number of emigrated respondents show the following graph.

Chart 2 *Countries with the highest share of respondents*

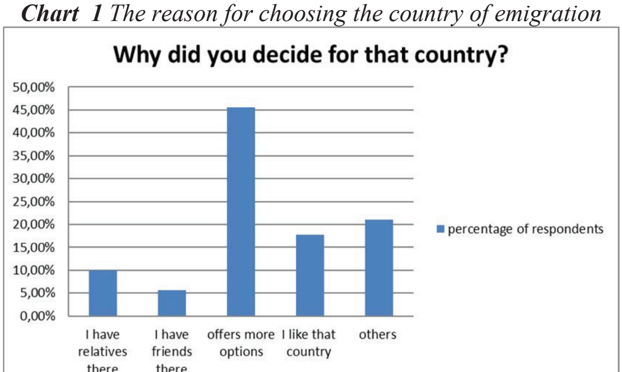


Source: made by author

The results obtained show the countries with the largest share of respondents, the country concerned most often leaving the respondents. Most of the respondents went to Ireland (27%), followed by Germany (26%), Canada (16%), Sweden (9%), United Kingdom (8%), Austria and Norway (3%), 8% of respondents went to other countries already mentioned, but in percentage less than 1%. The most attractive countries in the European Union are Ireland and Germany.Looking at the world plan is certainly the most interesting Canada.

Although Croatians went to Australia, New Zealand, and Canada in the early 1990s, Canada became particularly tempting a few years ago because it offers emigrants the better quality of life, easier access to the new community, and is relatively easy and quick to find decent job. The chart below shows the reasons for selecting specific country.

Chart 1 *The reason for choosing the country of emigration*



Source: made by author

The chart shows that the results obtained show the reason for the country where the respondents emigrated. The largest share of respondents (45.6%) argued that the new country offers more opportunities, while the smallest share of respondents (5.7%) emigrated because they had friends there. 17.8% of the respondents claim to have gone to the country because they like this country, 9.9% of respondents because they have relatives there, while 21% of respondents said something else.

5. Conclusion

Croatia is characterized by turbulent economic and political changes over the last 20 years. This is one of the reasons for intensive migration. Because of the great economic insecurity that has gripped her, Croatia is leaving not only individuals but also the whole family today. Ever since the 2008 economic crisis erupted, migration trends in Europe have changed considerably. The main areas of emigration, before the crisis and beyond are the countries of Central Europe, unlike the previous waves of emigration. Germany is the most common destination of Croatian emigrants. With Germany among the top, five countries where most Croatians are migrating are Bosnia and Herzegovina, Serbia, Austria, Ireland, and Switzerland. The survey also confirmed the most attractive destinations to the Central Bureau of Statistics.

REFERENCES

Croatian Bureau of Statistics, www.dzs.hr, (accessed 05 March 2018)

Državni ured za Hrvate izvan Republike Hrvatske,http://www.hrvatiizvanrh.hr/hr/hmiu/stanje-hrvatskih-iseljenika-i-njihovih-potomaka-u-inozemstvu/ (accessed 09.November 2014)

Duspara, L.: (2016) ***Human resources impact on the financial success in manufacturing industry in Republic of Croatia***, zbornik radova Interdisciplinary Management Research (Interdisciplinäre Managementforschung), The J.J.Strossmayer University of Osijek, Pforzheim University of Applied Sciences, Postgraduate Study Management – Faculty of Economics Osijek, Osijek, 2016., Croatia, 2016., str. 17-27

Federalni zavod za statistiku BiH. Statistički bilten Sarajevo, 1993., http://www.fzs.ba/Dem/Popis/Etnicka%20obiljezja%20stanovnistva%20bilten%20233.pdf (accessed 15 October 2014)

Hrvatska matica iseljenika, (2012). http://www.matis.hr/index.php/hr/novosti/807-hrvati-medu-najbolje-integriranim-strancima-u-njemackoj, (accessed 29.11.2015.)

Leksikografski zavod Miroslav Krleža, http://www.enciklopedija.hr/Natuknica.aspx?ID=57806 (accessed 06 July 2014)

Ministarstvo vanjskih i unutarnjih poslova, http://www.mvep.hr/files/file/publikacije/Sve_sto_ste_htjeli_znati_o_EUropskoj_uniji_web.pdf (accessed 02 May 2015)

Zakon o odnosima Republike Hrvatske s Hrvatima izvan Hrvatske, Narodne novine d.d., 16/12, Zagreb, 2012., http://www.zakon.hr/z/507/Zakon-o-odnosima-Republike-Hrvatske-s-Hrvatima-izvan-Republike-Hrvatske (accessed 06 February 2015)

Jakša Krišto, PhD Assistant Professor
University of Zagreb, Faculty of Economics and Business
Trg J.F. Kennedyja 6, Zagreb
Phone: +385 1 238 3170 Fax: +385 1 233 5633
E-mail address: jkristo@efzg.hr

Roman Šubić, PhD Assistant Professor
Catholic University of Croatia
Ilica 242, Zagreb
Phone: +385 1 370 6656 Fax: +385 1 370 6601
E-mail address: roman.subic@unicath.hr

Nika Đuho, mag. soc.
E-mail address: nika.djuho@yahoo.com

DETERMINANTS OF STUDENT FINANCIAL RISK TOLERANCE: A SURVEY APPROACH

ODREDNICE STUDENTSKE TOLERANCIJE PREMA FINANCIJSKOM RIZIKU: ANKETNO ISTRAŽIVANJE

ABSTRACT

Financial risk tolerance affects financial decisions of individuals, from day-to-day personal finance management to long-term investment decisions. Financial risk tolerance is an individual characteristic of each financial market participant. Awareness of individual risk tolerance provides the opportunity of selecting suitable financial products and investment strategies. This field draws attention of wide scientific and professional community, but still without general conclusion. The assessment of risk tolerance is also subject of various financial studies that have considered the structure of the individual investor's portfolio and his risk tolerance. They also tested different demographic, social and psychological characteristics and their interdependence to risk tolerance. This paper studies the factors that might affect the risk tolerance among students in Croatia. The research considers the influence of socio-demographic characteristics, financial literacy, field of study and student level of education to risk tolerance on the convenience sample of students. The survey was conducted among 458 students, of which 238 students were from the Catholic University of Croatia and 220 students from the Faculty of Economics and Business, University of Zagreb. Regression analysis results indicated that risk tolerance is associated with gender, field of study and financial literacy. In addition, findings suggest that students in field of economy are characterized by higher risk tolerance than students in other fields of study. Furthermore, the discussion in the paper addresses the factors that influence the identified level of student risk tolerance. This research indicates the importance of deepening financial literacy among students with the intention to raise awareness about the existence of different types of financial risks and to recognize their inherent risk tolerance. Understanding the personal characteristics of each investor contributes to the selection of suitable portfolio of financial products and services that corresponds to his personal preferences and investment strategy with regard to time horizon concerning short- and long-term goals.

Key words: *risk tolerance, financial literacy, personal finance, survey analysis, socio-demographic characteristics.*

SAŽETAK

Tolerancija prema financijskom riziku utječe na financijske odluke pojedinaca, od svakodnevnog upravljanja osobnim financijama do dugoročnih ulagačkih odluka. Ona je individualna karakteristika svakog sudionika financijskog tržišta, a njeno poznavanje olakšava odabir primjerenih financijskih proizvoda i ulagačkih strategija. Ovo područje predmet je interesa šire znanstvene i stručne zajednice, ali je još uvijek bez jednoznačnog odgovora. Preispitivanje tolerancije prema riziku pojedinca predmet je različitih financijskih studija koje su testirale sastav portfelja pojedinca i njegovu toleranciju prema riziku, zatim različite demografske, sociološke i psihološke karakteristike te međuovisnost s tolerancijom prema riziku. Ovim radom analiziraju se čimbenici koji utječu na toleranciju prema riziku studentske populacije u Republici Hrvatskoj. U istraživanju se na prigodnom uzorku studenata ispituje utjecaj sociodemografskih karakteristika, financijske pismenosti te studijskog usmjerenja i obrazovanja studenata na njihovu toleranciju prema riziku. Anketnim istraživanjem obuhvaćeno je 458 studenata, od kojih je 238 studenata Hrvatskog katoličkog sveučilišta te 220 studenata Ekonomskog fakulteta Sveučilišta u Zagrebu. Rezultati regresijske analize pokazali su kako su varijable spola, studijskog usmjerenja i financijske pismenosti značajni prediktori u predviđanju tolerancije prema riziku studenata. Uz to, studente ekonomskih usmjerenja karakterizira rizičnija tolerancija prema riziku od studenata neekonomskih usmjerenja. Raspravom u radu dodatno se problematiziraju čimbenici koji utječu na utvrđenu toleranciju prema riziku studenata. Ovo istraživanje ukazuje na važnost produbljivanja financijske pismenosti kod studenata s ciljem podizanja svijesti o postojanju različitih vrsta rizika i prepoznavanju inherentne tolerancije prema riziku. Razumijevanje osobnih karakteristika ulagača doprinosi odabiru portfelja optimalnih financijskih proizvoda i usluga koji će odgovarati njegovim osobnim preferencijama i investicijskoj strategiji s obzirom na vremenski horizont odnosno na kratkoročne i dugoročne ciljeve.

Ključne riječi: *tolerancija prema riziku, financijska pismenost, osobne financije, anketno istraživanje, sociodemografske karakteristike.*

1. Introduction

Financial risk tolerance is an important inherent characteristic of households and individuals. Financial risk tolerance is shaping day-to-day investment and financial decisions concerning retirement savings, financial market investments, debt, insurance and other financial services. Analysis and determination of factors affecting financial risk tolerance of individuals recently drew attentionof scientific community. Research literature analysed this field in case of individuals of different characteristic such as: demography, social status, financial literacy, financial wealth or other. Among other groups, students were also the subject of international research. In that sense, this paper studies the factors that might affect the financial risk tolerance among students in Croatia. The research considers the influence of socio-demographic characteristics, financial literacy, field of study and student level of education to the financial risk tolerance on the convenience sample of students of two universities in Croatia. Research is based on the following hypotheses:

- *H1: Socioeconomic characteristics dominantly influence financial risk tolerance compared to financial literacy and field of study.*
- *H2: Lower level of financial literacy determinates conservative financial risk tolerance profile.*
- *H3: Students in the field of economy are characterised by more aggressive financial risk tolerance than students of other fields of research.*

Testing hypothesis is based on descriptive statistics, regression and correlation analysis. Paper is organised as follows. After the introductory remarks, comprehensive literature review is presented in this field of research pointing out conclusions of comparable research. Forthcoming chapter describes the data and methodology approach. Results and tested hypotheses are presented in the next chapter. At the end of the paper, chapter regarding discussion and conclusion provides economic explanation of obtained results and points out contribution, limitations of conducted research and recommendations for further research.

2. Literature review

Financial risk tolerance, when used broadly, is sometimes used as a catch-all for many risk-related concepts. However, financial risk tolerance has a very specific meaning. Cordell D.M. (2001) stated that financial risk tolerance is the maximum degree of uncertainty someone is willing to accept when making a financial decision that entails the possibility of a loss. This statement matches well with the International Organization for Standardization's (2006) definition that financial risk tolerance is the extent to which someone is willing to experience a less favourable outcome in the pursuit of an outcome with more favourable attributes (Grable, 2017, 2). Cordell D.M. (2001) divides financial risk tolerance into four components: propensity, attitude, financial capacity and financial knowledge (Cordell, 2001, 36-40).

Research literature in a field of individual financial risk tolerance has been dealing with following research problems:gender and risk tolerance, economic characteristics related to risk tolerance, such as financial literacy, income, income uncertainty and net worth, use of financial planner, employment status, furtherdemographic characteristics and relation to risk tolerance, also expectations related to risk tolerance (Fisher and Yao, 2017, 191-202).

In addition, literature also dealt with cultural differences in financial risk tolerance and portfolio creation. Pyles, M.K. et al. (2016) conducted a research on impact of culture on risk tolerance using surveys completed by Chinese and American students. They suggest that differences in risk tolerance are at least partially a product of culture, but such differences may not always translate into actual investment decisions (Pyles et al., 2016, 43). Comprehensive research by Statman, M. (2008) discusses many cultural differences that may influence investor behaviour and how these differences may influence the recommendations of a financial advisor. He concludes that the propensities for risk, regret, and maximization vary by country of origin and by gender. In addition, risk tolerance in income andportfolios is related, and risk tolerance is related to trust (Statman, 2008, 38, 43).

Fisher, P.J and Yao, R. (2017) conclude that gender differences in financial risk tolerance are explained by gender differences in the individual determinants of financial risk tolerance, and that the disparity does not result from gender in and of itself. The individual variables that moderate the relationship between gender and high risk tolerance are income uncertainty and net worth, with income uncertainty moderating the relationship between gender and some risk tolerance (Fisher and Yao, 2017, 191).

Sung, J. and Hanna, S. (1996) analysedeffects of financial and demographic variables on risk tolerance among households with an employed respondent in the 1992 Survey of Consumer Finances. Logistic regression analysis showed that female headed households were less likely to be risk tolerant than otherwise similar households with a male head or a married couple. They stated that differences in risk tolerance by gender/marital status, ethnic group and education could be due to differences in understanding of the nature of risk (Sung andHanna, 1996, 11).

Finally, level of risk tolerance is analysed in a relation to portfolio risk. Corter, J.E. and Chen, Y-J. (2006) used a sample of graduate students in business and they conclude that investment experience proved to be an important predictive variable,with more experienced investors showing more risk-tolerant attitudes, as well as more risky investment portfolios. They also found evidence that risk-taking behaviour is a situation-specific behaviour, not a general personality trait (Corter and Chen, 2006, 379-380).

To authors’ knowledge, this is a first study that deals with financial risk tolerance among students in Croatia. Anđelinović et al. (2016) researched students’ financial literacy without emphasis on financial risk tolerance.

3. Research methodology

Empirical research was carried out through a survey on the student population of two Croatian universities. The survey was conducted among 458 students out of which 238 students were from the Catholic University of Croatia and 220 students from the Faculty of Economics and Business at the University of Zagreb. The main purpose of conducting a survey on these two groups of students was to divide a group of students who study economics and the rest of students who study some other non-economic programs. Namely, at the Catholic University of Croatia are offered five fields of study, but none is directly related to the economics: history, psychology, sociology, communication sciences and nursing.

The convenience sample of students consists mainly of undergraduate students (375 participants or 81.9%) and the rest of first year graduate students (78 participants or 17.0%). The average age of students involved in this survey is 20.65 years and in term of gender 29.3% are males while 67.2% of participants are females. Since the survey was conducted among students of two universities which are located in Zagreb, the largest number of participants (41.5%) was born or spent their life in Zagreb while the rest comes from smaller cities or local communities. From the aspect of their preliminary secondary education, almost two thirds (64.8%) of participants have finished gymnasium while the rest have attended vocational schools, of economics or others. Additionally, 40.8% participants have at least one of the parents who finished high school while 26.6% of the participants in the survey have parents who have faculty degree. Almost three quarters (70.3%) of participants are mainly financed by their parents, while 58.1% of students in the survey still live with their parents and 27.3% of them workseasonal jobs during the summer. Of the total number of participants, 87.8% never attended any kind of financial literacy workshops and 45.2% of them estimate that they are partially familiar with the concept of financial literacy. Associated with the assessment of student financial risk tolerance, about half of the participants (52.8%) estimate that they have moderate tendency towards changes.

A.Methodology and Ethnicity
The data were collected from face-to-face survey among students in cooperation with different faculty departments, starting in June 2017. Survey was based on voluntary participation with respect of participant's anonymity and provided information about research topic, purpose and institutions involved. According to the pilot study, survey took around ten minutes. The universities have provided permission to take the test tools in the research purpose.

B.Survey structure
The questionnaire consists of 31questions in closed and scale form. The first set of questions was related to social and demographic characteristics of participants while second set of questions was related to the financial risk tolerance. The questionnaire is based on Bodie, Z. et al. (2006)in part of financial risk tolerance and OECD INFE (2011) for financial literacy, as well as authors shaping. According to the standardized classificationstudents'responses were divided, regardingto the score they achieved, into three categories considering financial risk tolerance:conservative (0-14), medium (15-21) or aggressive (22-27) investor. Subsequently, for the purpose of this research and more distinct analysis,responses were divided into four categories: high-conservative investors (0-14), medium-conservative investors (15-17), medium-aggressive investors (18-21) and high-

aggressive investors (22-27). Third set of questions was related to student's attitudes and behavior regarding the financial decision-making. Finally, last important set of questions referred to the component of students' financial literacy. In the survey was also examined students' perception of most interesting, most valuable and most commonly used information resources.

C. Statistical test and tools used for the analysis
Further analysis was performed by using IBM SPSS software package. The Pearson correlation coefficient (*r*) was used in bivariate correlationsand regression procedure (stepwise method) was used to analyze the variables whose values maximize the student financial risk tolerance.Correlationdeterminesthestrength of therelationshipbetweenvariablesandregression analysis is used when finding a regression equation to predict dependent variable on the basis of independent variables. Still, the most common use is to understand the relationship between variables rather than to make a prediction because it shows us how variation in one variable co-occurs with variation in other variables.(Howell, 2010, 516).

In this case, financial risk tolerance, as determined by each respondent's score on the risk assessment measure, was used as the dependent variable, while others were used as independent variables (financial literacy, gender, field of study, participant's level of education, parent's degree of education and participant's place of residence).

4. Results

According to the results of student risk tolerance, economic students show a higher score of risk tolerance and can be characterized as medium conservative investors by the average score (15.35). In contrast, non-economic students, who participated in this research, are considered more conservative investors with an average risk tolerance score of 14.55. From the sample of all participants, the average risk tolerance value is considered conservative with an average score of 14.94. Regarding a year of study, there is no significant difference between the answers of undergraduate and graduate students. Eventually, greater difference could be detected between genders. Female respondents can be characterized as more conservative (14.44), while male respondents had lightly higher rate (15.73), but still classified as medium conservative investors.

Table 1 *Distribution of respondents according to risk tolerance*

Type of investors	Total	EFZG	HKS
Conservative investor (0-14)	46.94%	44.09%	49.58%
Medium conservative investor (15-17)	32.75%	31.82%	33.61%
Medium aggressive (18-21)	17.69%	20.45%	15.13%
Aggressive investor (22-27)	2.62%	3.64%	1.68%
Average score value	14.94	15.35	14.55

Source: Authors calculations

Considering the attitudes and behavior of the respondents in relation to the purchase and financial decision-making area, among nine asked questions, several significant data's were detected: students rarely use credit card (rate 2.35), students don't have tendency to invest in securities on financial markets (rate 2.91) and also don't have tendency to choose traditional forms of financial products such as savings (rate 2.96).However, some differences can be detected among the respondents regarding the field of study. Economic students are significantly more interested (rate 4.08) in expanding their financial knowledge than non-economic students (rate 3.43). Likewise, affinity for investment in the capital market (rate 2.91) is higher among students whose knowledge of financial investments is one of the theoretical disciplines during the study. Nonetheless, with the assumption of lower financial literacy level, non-economic students are more inclined to use non-cash payment (rate 2.44) than economic students (rate 2.24), which is less expected. Other variables don't show any significant differences between the respondents.

Even before applying the questionnaire it was to be expected that economic students have higher scores in questions from financial literacy than non - economic students. Meanwhile, given results were slightly unexpected. Respectively, modal value with the highest frequency of correct answers among the economic students was: 4 out of 5 correct answers, while among the non - economic students that number was 0. In fact, the non – economic students decided to choose the answer "I do not know or am not sure" more frequently than economic students did. For example, in assessing the effect of interest rate on savings over inflation, averagely in even two out of three cases (67.6%) non – economic students addressed the lack of knowledge on the subject and economic students in one out of three cases (31.8%). In respect, considering the group of questions about financial knowledge, average correct answer score of all respondents was 1.91 with significant difference between economic (2.52) and non – economic students (1.35). Regarding the questions from financial sphere, most correct answers were given in segment of risk diversification (57.0%), while the uncorrect answers were mostly given in assessing the compound interest account (23.1%).Unlike the group of questions related to risk tolerance and the group of questions related to attitudes and behaviors of participants, questions about specific terms from financial field are very exact and can be objectively measured.Given this, assessment of financial knowledge are important component in estimating financial literacy of respondents.

For the purpose of testing the first hypothesis and defining factors that dominantly affect risk tolerance, regression analysis was used. Among the various sociodemographic characteristics, only gender proved to be dominant, while variables such as: pre- education of respondents, parents' level of education, previous place of residence and others were much less significant. In addition to the gender, significant factor for predicting risk tolerance is respondents' financial literacy. For regression analysis, stepwise method was used and two models were given. In the first model we have gender ($B = -1.348$, $p < 0.01$) and it explains 4.3% of the total variance ($\Delta R2 = 0.043$). In the second model financial literacy ($B = -0.097$, $p < 0.05$) was joined with gender ($B = -1.070$, $p < 0.01$) and together they explain 5.4% of the total variance ($\Delta R2 = 0.054$). Both previous models are significant ($F1 = 19.352$, $p < 0.01$, $F2 = 12.714$, $p < 0.01$). It should be noted that the field of study also proved to be significant ($t = 2.182$; $p < 0.05$), but didn't go into further analysis because it doesn't significantly contributes in explaining the total variance.

***Table 2** Regression analysis (stepwise method)*

Model	Variables	B	T	p
1	Gender	-1.348	-4.399	0.000
2	Gender	-1.070	-3.287	0.001
	Financial literacy	-0.097	-2.418	0.016
Excluded	Field of study		2.182	0.030

Source: Authors calculations

For the purposes of testing the second and third hypotheses previously mentioned in the research methodology, correlation analysis was used. In correlationanalysis, we included risk tolerance, financial literacy and field of study (economic and non – economic students). Following the results, Pearson's correlation indicates moderately negative and statistically significant correlation ($r = -0.434$, $p < 0.01$) between financial literacy and field of study. It means that economic students have a higher level of financial literacy.

In relation to risk tolerance there is low and statistically significant correlation ($r = 0.176$; $p < 0.01$) between financial literacy and risk tolerance. In conclusion, respondents with higher level of financial literacy also show greater tendency towards risk tolerance so we can characterize them as less conservative investors. These results support findings from previous chapter.

There is also low and statistically significant correlation ($r= 0.128$; $p<0.01$) between field of study and risk tolerance. These findings show that non – economic students are more conservative than economic students are.

Furthermore, analysis show moderate and statistically significant correlation between gender and financial literacy ($r= 0.370$; $p<0.01$). At the same time, we have low and negative statistically significant correlation between gender and risk tolerance ($r= -0.200$; $p<0.01$). These findings can be explained in terms of female respondents having lower level of financial literacy, more conservative approach and lower risk tolerance considering financial investment context.

Table 3 *Correlation analysis*

Variable	Risk tolerance	Financial literacy	Field of study	Gender
Risk tolerance	1.000	0.176	0.128	0.200
Financial literacy	0.176	1.000	-0.434	0.370
Field of study	0.128	-0.434	1.000	-
Gender	0.200	0.370	-	-

Source: Authors calculations

As it is mentioned before, with the first hypothesis it was to be expected that socioeconomic characteristics will dominantly influence financial risk tolerance in comparison to financial literacy and field of study. Results have shown that only gender as socioeconomic characteristic has influence on financial risk tolerance while other variables were insignificant. In addition, financial literacy was found to also have significant influence on financial risk tolerance. Field of study was insignificant. Following the results, first hypothesis was partially confirmed. In the second hypothesis we expected that lower level of financial literacy determinates conservative financial risk tolerance profile. Results confirmed this expectation, as we have seen that students with higher level of financial literacy have higher risk tolerance. In the third hypothesis, as expected, results show that students in the field of economy are characterised by more aggressive financial risk tolerance then students of other field of study.

5. Discussion and Conclusions

Based on comprehensive international literature and standardised risk tolerance and financial literacy questionaries' hypotheses and methodology in this paper has been developed. Obtainedresults are in line with some international research considering relation of gender and financial risk tolerance. Some of the conclusions are also similar to international research in a way that increased financial literacy contributes to more aggressive financial risk tolerance that is seen in case of students from the field of economy. Results of regression analysis point to the gender as significant factor for predicting risk tolerance as well as respondents financial literacy.Field of study also proved to be significant in regression model, but it doesn't contributesmuch in explaining the total variance.Result of correlation analysis indicatenegative and statistically significant correlation between financial literacy and field of study. This is expected result proving that economic students have a higher level of financial literacy. Respondents with higher level of financial literacy also show greater tendency towards risk tolerance so we can characterize them as less conservative investors.

Research is opening various new research direction and recommendations for further analysis. It would be valuable to examineeconomic and financial status of students and their level of financial risk tolerance, also relation of risk tolerance and their employment, college financing, as well as other socio-demographic characteristics. Special attention needs to be drawn to the necessity of financial education and fostering student financial literacy with the ultimate goal to make them informed and capable for optimal personal finance decisions.

REFERENCES

Anđelinović, M., Pavković, A., Mišević, D. (2016): ***Measuring financial literacy of students at the University of Zagreb***, EFZG Working paper series, No. 16-10: 1-20

Bodie, Z., Kane, A., Marcus, A.J. (2006): ***Počelaulaganja***, Mate d.o.o.

Corter, J.E., Chen, Y-J. (2006): ***Do investment risk tolerance attitudes predict portfolio risk?,***Journal of Business and Psychology, Vol. 20, No. 3, pp. 369-381

Cordell, D.M. (2001): ***RiskPACK: How to Evaluate Risk Tolerance***, Journal of FinancialPlanning, Vol. 14, No. 6, pp. 36–40

Fisher, P.J., Yao, R. (2017): ***Gender Differences in Financial Risk Tolerance***, Journal of Economic Psychology, Vol. 61, pp. 191-202

Howell, David. (2010): ***Statistical methods for psychology***, Wadsworth Cengage Learning

Grable, J.E. (2017): ***Financial risk tolerance: a psychometric review***, The CFA Institute Research Foundation

International Organization for Standardization (2006): ***Personal financial planning -- Requirements for personal financial planners,***ISO 22222:2005

OECD INFE (2011): ***Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for conducting an Internationally Comparable Survey of Financial literacy***, Paris, OECD

Pyles, M.K. et al. (2016): ***Cultural influences on risk tolerance and portfolio creation***, Journal ofBehavioral and Experimental Finance, Vol. 9, pp. 43–55.

Statman, M. (2008): ***Country and culture in behavioral finance***, CFA Institute Conference Proceedings Quarterly, September 2008, pp. 38–44.

Sung, J. and Hanna, S. (1996): ***Factors related to risk tolerance***, Financialconsueling and planning, Vol. 7, pp. 11-19

Darija Krstić, M.Sc.
University of Josip Juraj Strossmayer in Osijek
Office for EU Funds, Professional and Development Projects with the Economy
Josipa Jurja Strossmayera Street 77, Osijek
Phone: +385 98 253 817
E-mail: dkrstic@unios.hr

Danijela Slipčević, M.Econ.
Agency for Development and Investment of the City of Vinkovci, VIA Ltd.
Vatrogasna Street 5, Vinkovci
Phone: +385 9710 436
E-mail: danijela.slipcevic@viavinkovci.hr

Renata Petrović, M.Sc.
Trade and Commercial School "Davor Milas"
Gundulićeva Street 38, Osijek
Phone: +385 98 813 898
E-mail: rencipet@gmail.com

IMPACT OF NON-FORMAL EDUCATION ON THE EMPLOYABILITY AND DEVELOPMENT OF THE ECONOMY OF EASTERN CROATIA

UTJECAJ NEFORMALNOG OBRAZOVANJA NA ZAPOŠLJIVOST I RAZVOJ GOSPODARSTVA ISTOČNE HRVATSKE

ABSTRACT

In recent years, new forms of education funding have emerged, particularly non-formal, which, due to the slow growth of the economy and the ever more dynamic changes dictated by the labour market, are becoming increasingly important. The entry of the Republic of Croatia into the European Union and the adoption of its legislative frameworks created prerequisites for the greater influence of entrepreneurial support institutions as well as other stakeholders in the creation of the required (non-formal) education model in response to the demands of the economy for the corresponding labour force. Human potentials management is a major challenge that, through the help of various formal and non-formal forms of education, is striving to adapt and adjust to the changing trends that are alternating rapidly in the economy. The purpose of the research is to establish the position of the Republic of Croatia in the field of lifelong learning and to identify key trends in non-formal education in relation to the EU, in line with the Europe 2020 Strategy. The aim of the research is to identify recommendations for the implementation of non-formal education and lifelong learning as a potential for the development of the economy of Eastern Croatia.
The research methodology will be based on the secondary, desk research, interviews with managers of entrepreneurial support institutions. The paper's recommendations are aimed at identifying stakeholders and defining knowledge and skills that are recognized as key to improving personal performance through non-formal forms of education and as such have a significant impact on increasing the employability of the labour force.

Key words: *human resources, non-formal and lifelong education, educational institutions, employment, entrepreneurial support institutions.*

SAŽETAK

U posljednjih nekoliko godina pojavili su se novi oblici financiranja obrazovanja, osobito neformalnog, koji uslijed sporog rasta gospodarstva i sve dinamičnijih promjena koje diktira tržište radne snage imaju sve veći značaj. Ulaskom Republike Hrvatske u Europsku uniju te prihvaćanjem njenih zakonodavnih okvira stvoreni su preduvjeti za veći utjecaj poduzetničkih potpornih institucija kao i ostalih dionika u kreiranju potrebitih modela (neformalnog) obrazovanja kao odgovor na zahtjeve gospodarstva za odgovarajućom radnom snagom. Upravljanje ljudskim potencijalima predstavlja velik izazov koji se uz pomoć različitih formalnih i neformalnih oblika obrazovanja nastoji prilagoditi i uskladiti s promjenama u trendovima koji se sve brže izmjenjuju u gospodarstvu. Svrha istraživanja je utvrditi položaj Republike Hrvatske u području cjeloživotnog učenja i prepoznati ključne trendove u neformalnom obrazovanju u odnosu na EU, sukladno Strategiji Europa 2020. Cilj istraživanja je identificirati preporuke za provedbu neformalnog obrazovanja i cjeloživotnog učenja kao potencijala za razvoj gospodarstva istočne Hrvatske.
Metodologija istraživanja temeljit će se na sekundarnom, desk istraživanju, intervjuima s voditeljima poduzetničkih potpornih institucija. Preporuke rada su usmjerene na prepoznavanje dionika i na definiranje znanja i vještina koje su kroz neformalne oblike obrazovanja prepoznate kao ključne za poboljšanje osobnih performansi te kao takve imaju značajan utjecaj na povećanje zapošljivosti radne snage.

Ključne riječi: *ljudski potencijali, neformalno i cjeloživotno obrazovanje, obrazovne institucije, zapošljavanje, poduzetničke potporne institucije.*

1. Introduction

In today's world of great global trends, ecological, demographic and cultural changes, the revolution of digitization and the open labour market, investing in education is one of the basic prerequisites for creating a stimulating and competitive environment. In order to better understand the trends of education, especially lifelong learning and employability, and to perceive development opportunities, it is important to explore them in the context of the policies and economies of the country and the EU Member States. For the eastern part of Croatia, it is a great challenge to create a positive environment in which progress will be made in terms of faster employment and economic development, which will ensure a higher quality of life for the population in this area. In that sense, it is important to recognize all stakeholders who play a significant role in the field of education and lifelong learning: educational institutions, entrepreneurial support institutions and others. Participation of adults in formal and non-formal education and training due to the slow economic growth and the extremely dynamic changes in the labour market are becoming increasingly important. Lifelong education enables communities to keep up to date with today's dynamic changes and thus create so-called "Knowledge society". In that sense, education and lifelong learning should provide a better correlation with labour market needs as economic entities are among the most important stakeholders involved in the creation of Eastern Croatia's development perspectives.

2. Non-formal and Lifelong Education

Although the notion of lifelong learning has emerged even in ancient times, and lifelong learning as an idea is mentioned in Plato's "Republic", lifelong education gained more importance only after World War II (Jelić et al., 2012, p. 62). According to Radek[1] (2007, p. 283) UNESCO's two great

[1] Radeka, I. (2007); retrieved from Coombs (1971); Faure et al., (1975); Delors et al., (1998): ***Uloga nastavnika u cjeloživotnom obrazovanju***. PEDAGOGIJSKA istraživanja, 4 (2), p. 283

researches from the 1970s have led to the conclusion that the traditional way of education has come to an insurmountable crisis and should be abandoned, and modern education should become part of the entire human education. The term 'lifelong education' prevailed at a meeting held in Paris in 1996, attended by 25 ministers from the countries of Western and Central Europe, Canada, Mexico, New Zealand and the USA, who concluded that this was a paradigmatic turnaround "from education to learning" which is necessary as a primary objective of world education reform and that "lifelong learning for all" should be the guiding principle of future education policy (Pastuović, 2008, p. 254). The European Commission[2] defines lifelong learning as "any lifelong learning activity with the aim to improve knowledge, skills and competences within the personal, civic, social or professional activities of an individual". It includes a formal, non-formal and informal forms of education, that is, learning from early youth to old age. Croatian Qualifications Framework Act[3] interprets formal learning as an organized activity of an authorized legal or natural person performing under approved programs for the acquisition and promotion of competences for personal, social and professional needs and is evidenced by a certificate, diploma or other public document issued by an authorized legal person.

It is further stated that non-formal learning is an organized learning activity whose purpose is to acquire and enhance competencies for personal, social and professional needs, and it is not proved by a public document. Informal learning is, according to the above mentioned Act, an unorganized activity of acquiring competences from everyday experience and other influences and resources from the environment for personal, social and professional needs.

Lifelong learning is all forms of learning throughout life, whose purpose is to acquire and enhance competencies for personal, social and professional needs.[4]

According to Jelić et al. (2012, p. 64), lifelong learning seeks to integrate all stages of education, taking into account the vertical and horizontal dimension of education, and, in addition to formal, non-formal and informal education, mentions unintentional i.e. experiential learning as one of the forms of lifelong education. In modern society, non-formal education is all the more attractive and present. The European Commission[5] defines non-formal education as 'education that takes place independently of the formal education system and usually does not lead to the acquisition of official certificates and as such may be organized in the workplace and through the activities of different societies or associations such as youth organizations, trade unions or political parties'. Such education can also be obtained through organizations and services that serve as a supplement to formal education systems, such as music schools, sports clubs or private lessons as preparation for exams. What characterizes informal education is acquiring certain knowledge and skills, and participation in such activities is voluntary (Kuka, 2012, p. 199). Non-formal education as a response to the real needs for education enables an individual to improve personal competences throughout life and as such plays a significant role in increasing employability.

2.1. Key Competencies Important for Employment

Globalization and labour market changes impose challenges that require a wide range of knowledge, skills and attitudes of an individual in order to more quickly and better adapt to society and the environment in which they live. Recognizing the recommendations of the European Parliament and the Council of the European Union (23 April 2008) on the establishment of the European

[2] Retrieved from Agency for Vocational Education and Adult Education, by Commission of the European Communities (2001): ***Making a European Area of Lifelong Learning a Reality***. http://arhivirano.cjelozivotno-ucenje.hr/www.asoo.hr/defaultb5b5.html?id=659

[3] Croatian Qualifications Framework Act, NN 22/13, 41/16, https://www.zakon.hr/z/566/Zakon-o-Hrvatskom-kvalifikacijskom-okviru

[4] Croatian Qualifications Framework Act, NN 22/13, 41/16, https://www.zakon.hr/z/566/Zakon-o-Hrvatskom-kvalifikacijskom-okviru

[5] ***Memorandum on Lifelong Learning***, working material of the Commission. Brussels, 30th October 2000, p. 9;

Qualifications Framework for lifelong learning (hereinafter: the EQF), the foundations have been created for the achievement of two objectives: promoting lifelong learning and promoting mobility of people across countries. According to EQF "competences" means the expressed ability to use knowledge, skills and personal, social and / or other methodological abilities, in work or learning situations and in professional and personal development. In the context of the European Qualifications Framework, the competences are described in the terms of responsibility and autonomy.[6] (Recommendation of the European Parliament and of the Council of the European Union of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning, p. 7). The European Union has thus defined eight key competences of the concept of lifelong learning:

Communication in the mother tongue; Communication in foreign languages; Mathematical competence and basic competences in science and technology; Digital competence; Learning to learn; Social and civic competences; Sense of initiative and entrepreneurship; and Cultural awareness and expression.[7]

Key competences are considered equally important because each of them can contribute to the successful life of an individual in the knowledge society and are as such indispensable to the individual for professional realization, self-actualization and development, active citizenship, social inclusion and employment. Considering key competencies important for employment, it is necessary to monitor and respect the attitudes and needs of employers, and especially trends in labour market needs. According to the Employer Survey 2017 conducted by the Croatian Employment Service, the aim was to collect information on employment, employment difficulties and employers' needs, and trends in labour market needs for different profiles of workers. The analysis observed the share of employers who experienced difficulties finding workers in Osijek-Baranja County during 2016 compared to the same indicators at the level of the Republic of Croatia.

Table 1 *The share of employers who experienced difficulties finding workers, by the size of employers in 2016*

	Osijek-Baranja County		**Republic of Croatia**	
	Number	**Share%***	**Number**	**Share%***
Total in 2014	80	27.4	1,555	29.1
Total in 2016	130	39.5	3,064	49.0
Size of the employer				
Micro (crafts) – up to 9 employees	20	50.0	464	58.1
Micro – up to 9 employees	16	43.2	533	55.8
Small – 10 to 49 employees	36	59.0	827	60.5
Medium-sized – 50 to 249 employees	23	57.5	487	62.0
Large – 250 and more employees	6	50.0	145	68.1

* It refers to employers who answered the question

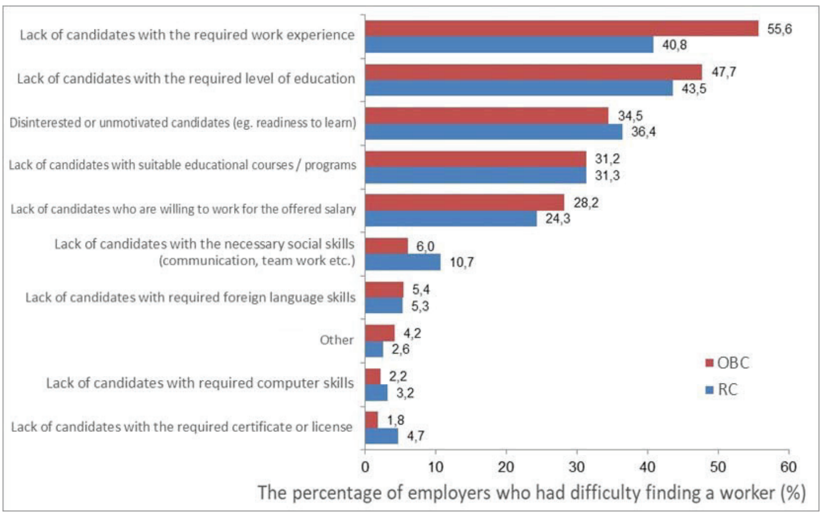
Source: Created by authors according to official data of Result and Analysis of Osijek-Baranja County Employers Survey, Croatian Employment Service, Regional Office Osijek, 2017;

[6] Recommendation of the European Parliament and of the Council of the European Union of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning, p. 7;
Available at: http://www.asoo.hr/UserDocsImages/dokumenti/eqf.pdf
(Accessed on 10th April 2018)

[7] Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning. // Official Journal of the European Union L394/10, 2006;
Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32006H0962
(Accessed on 10th April 2018)

During 2016, 130 employers or 39.5% had difficulties finding a worker to employ while in 2014 this number was lower (80) and the share of those with difficulties was 27.4%. Looking at the data at the level of the Republic of Croatia, it can be determined that during 2016, when employing 3,064 employers or 49.0% had difficulties finding a worker, which was a significant increase compared to 2014 when this number was 1,555 or 29.1%. Given the size, the greatest difficulty in finding workers had micro (craft) entrepreneurs with a 50% share while other micro entrepreneurs had a share of 43.2%. Looking at only the employers who expressed difficulties in finding the workers, the types of problems encountered by employers in finding the workers in Osijek-Baranja County and in the Republic of Croatia are further distinguished.

***Chart 1** Representation of the individual reasons of difficulty in finding a worker, %*



Source: Result and Analysis of Osijek-Baranja County Employers Survey, Croatian Employment Service, Regional Office Osijek, 2017;

The most common reason that employers state as a difficulty in finding workers in Osijek-Baranja County is the lack of candidates with the required work experience (55.6%), while secondly, as a reason, they state the lack of candidates with the required level of education (47.7%). At the level of the Republic of Croatia, the first reason the employers found difficult to find workers was the lack of candidates with the required level of education (43.5%), while the second reason stated was the lack of candidates with the required work experience (40.8%). If we look at the results of the research for Osijek-Baranja County, high proportion of employers as a reason indicated the lack of interest or motivation of the candidates (34.5%), the lack of candidates with suitable education courses / programs (31.2%), followed by the lack of candidates who are willing to work for the offered salary (28.2% of cases). The lack of candidates with the necessary social skills, which includes the characteristics of workers such as the tendency for team work, communication skills and the like, is the problem of less employers (6.0%) but more than the lack of required foreign language skills (5.4%). Given that the most common reason for having difficulties finding workers in the Republic of Croatia is the lack of candidates with the required level of education, the position of the Republic of Croatia in relation to other European countries has been analysed with regard to people who attend lifelong learning. *Table no. 2* below shows the percentage of people attending lifelong learning programs in the European countries, including gender representation, and a comparison for 2011 and 2016.

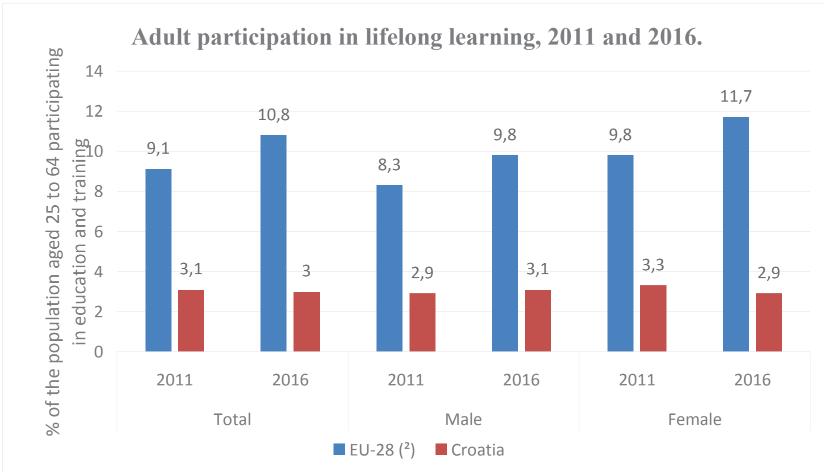
Table 2 *Adult participation in lifelong learning, 2011 and 2016 – the position of the Republic of Croatia in relation to the EU-28 and the countries in the last positions*

	Total		Male		Female	
	2011	2016	2011	2016	2011	2016
EU-28 (²)	9,1	10,8	8,3	9,8	9,8	11,7
Bulgaria	1,6	2,2	1,5	2,1	1,6	2,3
Greece	2,8	4	2,9	4	2,6	4
Croatia	3,1	3	2,9	3,1	3,3	2,9
Hungary (²)	3	6,3	2,8	5,6	3,1	7
Romania	1,6	1,2	1,7	1,2	1,5	1,2
Slovakia	4,1	2,9	3,5	2,6	4,6	3,2
FYR of Macedonia	3,6	2,9	3,6	2,8	3,5	3

Source: Created by authors based on official Eurostat data (online data code: trng_lfs_01) Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Adult_learning_statistics Source data for tables and graphs (MS Excel); Adult learning statistics: tables and figures (Accessed on 16th April 2018)

The data was collected from the survey on labour force in the European Union and refer to the education of adults aged 25-64. Looking at the position of the Republic of Croatia in relation to other countries in 2016 it is evident that the Republic of Croatia was at the back with 3% while the EU-28 average was 10.8%. Only Bulgaria (2.2%), Romania (1.2%), Slovakia (2.9%) and Macedonia (2.9%) had a smaller percentage of adults participating in lifelong learning in 2016. Analysing the position of the Republic of Croatia in 2011, it is evident that the smaller percentage of adults participating in lifelong learning in relation to the Republic of Croatia (3.1%) had Bulgaria (1.6%), Greece (2.8%), Hungary (3%) and Romania (1.6%). The conclusion is a negative trend in the number of people participating in lifelong education in the Republic of Croatia, which is also present with regard to lifelong education of women. With regard to membership in the European Union, Chart 2 shows the position of the Republic of Croatia in relation to the EU-28 with regard to the participation of adults in lifelong learning for 2011 and 2016 by gender.

Chart 2 Adult participation in lifelong learning, 2011 and 2016. – the position of the Republic of Croatia in relation to the EU-28



Source: Created by authors based on official Eurostat data. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Adult_learning_statistics
Source data for tables and graphs (MS Excel); Adult learning statistics: tables and figures (Accessed on 16th April 2018)

As a member of the EU, the Republic of Croatia with the position at the back is among the countries with the lowest adult participation rates in lifelong learning. Observed by gender, there is an evident increase in the number of men in the EU-28 participating in education from 8.3% (2011) to 9.8 (2016). In the Republic of Croatia there is also an increase of men participating in education from 2.9% (2011) to 3.1% (2016). However, with regard to the lifelong education of women, the same trend is not present. Namely, while in the EU-28 there is also an increase in the number of women participating in lifelong learning from 9.8% (2011) to 11.7% (2016), there is a decrease of women participating in lifelong learning in the Republic of Croatia from 3.3% (2011) to 2.9% (2016). The aforementioned is unsatisfactory for further development suggesting that there is a great need and necessity for the implementation of lifelong learning programs in the Republic of Croatia, and given the development index, this is especially significant for Eastern Croatia. It is very important to point that in 2016, 82.1% of highly educated people aged 25-64 were employed, compared to only 63.5 % of people with at most upper secondary education. The most striking difference with the EU average is for the lower educated: only 38.1 % are employed in Croatia, against the EU average of 54.3 %. The case is strong for investing in and reforming education and training, including adult education, in order to raise the skills levels and make qualifications more relevant to finding employment. [8](Country Reports od the Education and Training Monitor, p. 6)

2.2. Strategic Framework, Goals and Realization of Indicators

Below is a strategic framework for education defined by 2020 and the position of the Republic of Croatia. Education and training are key to economic and social progress, while harmonizing skills with the needs of the labour market plays a key role. Likewise, within the framework of the Europe 2020 strategy, in order to respond to the economic crisis, the European Union has set the following

[8] Country Reports od the Education and Training Monitor, p. 6)
Source: https://ec.europa.eu/education/sites/education/files/monitor2017-hr_hr.pdf (Accessed on: 19th April 2018)

goals: reducing the number of people who drop out of education to less than 10% and increase the number of people with a higher education degree to at least 40% by 2020. Education and Training 2020[9] (Further: ET 2020) is a strategic framework for cooperation in education and training. In 2009, within the framework of the ET 2020 program, four common goals of the EU have been set in order to meet the challenges of education and training systems by 2020: the realization of lifelong learning and mobility ideas, the enhancement of the quality and efficiency of education and training, promotion of justice, social cohesion and active citizenship, encouraging creativity and innovation, including entrepreneurship, at all levels of education and training. Below, Table 3 shows how the Republic of Croatia is advancing in achieving the set goals of ET 2020.

Table 3 *Education indicators of the Republic of Croatia according to the key indicators of ET 2020*

ET 2020 BENCHMARKS		**CROATIA 2017**		**EU 2017**
Adult participation in learning	Min 15%	Higher Education	5.4%	18.6%
		Secondary Educatin	2.8%	8.8%
		Elementary (low) eduvcation	0.3%	4.2%
Proportion of 15 year-olds with underachievement in:	Max. 15%	Reading	19.9%	19.7%
		Science	24.6%	20.6%
		Maths	32.0%	22.2%
Tertiary educational attainment	Min 40 %	29.5%		39.1%
Early leavers from education and training	Max 10%	2.8%		10.7%
Early childhood education and care	Min. 95%	73.8%		94.8%
Employment rate of recent graduates by educational attainment	Min. 82%	72.5%		78.2%

Source: Created by authors according to the official data on the website of the Country Reports od the Education and Training Monitor[10]. Available at: https://ec.europa.eu/education/sites/education/files/monitor2017-factsheet-hr_en.pdf
https://ec.europa.eu/education/sites/education/files/monitor2017-hr_hr.pdf (Accessed on 19th April 2018)

Basic highlights are that participation rates in early childhood education and care and in adult education are among the lowest compared to other EU countries. The very low early school leaving rate is among the main strengths of Croatia's education system. One of the key strategic documents in the field of lifelong education is certainly the Strategy of Education, Science and Technology, which as a vision highlights „Croatian society in which quality education has an important impact on the life of every individual, on social relations and on economic development. Croatian society will be democratic, tolerant and innovative, and the personality of every individual will be able to come to full expression. The economy will largely be based on advanced technologies that allow for high added value, and highly educated individuals will be able to find a suitable job.“[11]

[9] Strategic Framework - Education and Training 2020 - ET 2020.
Source: http://ec.europa.eu/education/policy/strategic-framework_hr (Accessed on: 13th April 2018)
http://ec.europa.eu/education/policy/strategic-framework_hr
[10] https://ec.europa.eu/education/sites/education/files/monitor2017-hr_hr.pdf
[11] https://mzo.hr/hr/strategija-obrazovanja-znanosti-tehnologije

There is a significant proportion of adult population in Croatia who, with their current level of education and competences, are not competitive in the labour market. By the entry of the Republic of Croatia into the European Union and the adoption of the Operational Program "Effective Human Resources from 2014 to 2020", lifelong learning has gained a significant momentum since Croatia is enabled to use the European Social Fund (ESF) funds. The European Commission points out that the ESF is the main instrument of the European Union aimed at promoting entrepreneurship, providing assistance to workers in finding better jobs and creating fairer opportunities for all EU citizens in their employment. Its action is based on investing in human resources - workers, young people and those looking for a job. The European Union is making continuous efforts in creating more and better jobs and strengthening social inclusion within society. These objectives represent the basis of the EU strategy Europe 2020, which promotes smart, sustainable and inclusive growth. With the current economic crisis, their realization is an extremely demanding challenge. The European Social Fund plays a very important role in achieving the European Union's objectives and alleviating the consequences of the economic crisis - in particular the increase in the number of unemployed and poor people.[12] An important part of the strategic framework in this area are certainly strategies of human resource management that define the development goals, priorities and measures of each county.

3. Institutions and Sources of Funding

The total state budget for the Republic of Croatia in 2018 is HRK 129 billion[13]. In the budget of the Republic of Croatia in 2018 HRK 16.12 billion was allocated for education, of which HRK 5,180,362.00 was allocated for the development of adult education system.[14]
As the above makes 12.5% of the total state budget, it leads to conclusion that education does not constitute a priority part of the financing by the state.

***Table 4** An overview of the counties of Eastern Croatia with the education budget for 2018 and the share in the total budget of the Republic of Croatia for 2018 in %*

County	Budget for 2018 in HRK	Share in the total budget of Croatia for 2018 in %
Vukovar-Srijem County	82,331,084.54	0.51%
Osijek-Baranja County	196,733,375.00	1.22%
Slavonski Brod-Posavina County	116,984,055.13	0.73%
Virovitica-Podravina County	55,681,733.56	0.35%
Požega-Slavonia County	15,360,015.87	0.10%

Source: Created by the authors according to the official data of the Ministry of Finance, Vukovar-Srijem County, Osijek-Baranja County, Slavonski Brod-Posavina County, Virovitica-Podravina County, and Požega-Slavonia County[15]

[12] http://ec.europa.eu/esf/main.jsp?catId=35&langId=hr
[13] http://www.mfin.hr/hr/drzavni-proracun-2018-godina
[14] Report of the Committee for Croats outside the Republic of Croatia on the Proposal of the State Budget of the Republic of Croatia for 2018 and Projections for 2019 and 2020; http://www.sabor.hr/izvjesce-odbora-za-hrvate-izvan-republike-hrva0013?dm=2
[15] Available at:
http://www.mfin.hr/hr/drzavni-proracun-2018-godina
http://www.vusz.hr/info/financije-1,
http://www.obz.hr/hr/index.php?tekst=1675
http://www.bpz.hr/dokumenti_3/proracun_i_financije/financijska_izvjesca_za_2018_g/default.aspx#.WtWdDohuZPY
http://www.vpz.hr/proracun/
https://www.pszupanija.hr/dokumenti/category/47-odjel-za-proracun-i-financije.html

Table 4 shows that the overall education budget for five counties of Eastern Croatia amounts to HRK 467,090,264.10, which accounts for 2.89% of the total education budget of the Republic of Croatia. Institutions that support non-formal and lifelong education in the Republic of Croatia are the Ministry of Science and Education, the Education and Training Agency, the Agency for Mobility and EU Programs (AMPEU), the Agency for Vocational Education and Adult Education, and the Agency for Science and Higher Education. In addition, agencies and bodies under the jurisdiction of other ministries (e.g. Hamag BICRO under the Ministry of Entrepreneurship and Crafts), numerous professional chambers, civil society organizations, entrepreneurial support institutions and others, are implementing non-formal education through various programs, seminars, workshops, one-day and multi-day trainings etc. Entrepreneurial Support Institutions (hereinafter referred to as ESIs) play a significant role in creating a stimulating and competitive environment. In addition to the activities of advising and informing entrepreneurs, applying and implementing projects at a national or European Union level, entrepreneurial learning is often neglected and as such does not contribute to the creation of a stimulating entrepreneurial environment. On the Croatian market, according to the Unified Register of Entrepreneurial Infrastructures,[16] there are 346 entrepreneurial support institutions which are trying to create a stimulating entrepreneurial environment through their activities. Below is the share of ESIs in Eastern Croatia in the total number of ESIs in the Republic of Croatia.

***Table 5** Number of entrepreneurial support institutions per Counties of Eastern Croatia and their share in the total number of ESIs in the Republic of Croatia*

County	Vukovar-Srijem County	Osijek- Baranja County	Slavonski Brod-Posavina County	Virovitica-Podravina County	Požega-Slavonia County	TOTAL
Number of entrepreneurial support institutions	8	18	6	5	7	44
Share in the total number of ESIs in Croatia	2.31%	5.20%	1.73%	1.45%	2.02%	12.72%

Source: Created by the authors according to the data of the Unified Register of Entrepreneurial Infrastructures; Available at: http://reg.mingo.hr/pi/public/

In the five counties of Eastern Croatia there are 44 ESIs whose most common activities are counselling, providing information and education for entrepreneurship. In addition, providing advisory and professional support in the implementation of programs and projects funded from EU funds is one of the key roles of the mentioned ESIs. In interviews with key (responsible) persons in five ESIs, it became apparent that the implementation of non-formal education and lifelong learning was very uneven, subject to fluctuations in terms of funding discontinuity and open EU tenders, and has, particularly in the last three years, often been funded within the framework of EU projects. Also, there are uneven quality standards for lifelong learning implementation and different criteria for evaluation of the implemented programs are present. As these institutions have highly developed capacities in the area of EU funds usage, there is a further potential for the implementation of non-formal education and lifelong learning as a potential for the growth of the economy of Eastern Croatia.

4. Conclusion

Due to the negative demographic trends and significant migration of the population, especially the young people in Eastern Croatia, lifelong learning imposes itself as an imperative whose

[16] http://reg.mingo.hr/pi/public/

implementation requires flexible, prompt and comprehensive activities of key stakeholders participating in the creation and implementation of lifelong learning programs. It is extremely important to involve employers as the key stakeholders, together with existing educational institutions, entrepreneurial support institutions, and others, in order to respond to the needs of the labour market better and faster, and educate employees to achieve greater competitiveness in the labour market. Human resources in entrepreneurial support institutions are insufficiently exploited, and the whole process has the features of discontinuous implementation of lifelong learning, uneven standards of implementation quality and evaluation criteria, and significant dependency on funding sources. Entrepreneurial learning should be one of the core activities of ESIs in the function of strengthening the competitiveness of counties, and thus the entire economy, as an upgrade of knowledge acquired during formal education. In general, for Croatia it is necessary to invest and reform education and training, especially including adult education in order to raise the skills levels and make qualifications more relevant to finding employment.

Promotion and intensified implementation of lifelong education should be one of the key activities of all educational stakeholders in the area of Eastern Croatia, by enabling individuals to access different forms of education, primarily by promoting and intensifying the implementation of non-formal learning.

REFERENCES

Books:

Result and Analysis of Osijek-Baranja County Employers Survey, Croatian Employment Service, Regional Office Osijek, 2017;

Internet:

Recommendation of the European Parliament and of the Council of the European Union of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning;
Source: http://www.asoo.hr/UserDocsImages/dokumenti/eqf.pdf (Accessed on: 10th April 2018)

***Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning**. // Official Journal of the European Union L394/10, 2006;*
Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32006H0962 (Accessed on: 10th April 2018)

***Employers' Survey in 2017**;*
Source: http://www.hzz.hr/UserDocsImages/Anketa_poslodavaca_2017_HZZ.pdf (Accessed on: 8th April 2018)

***Adult participation in lifelong learning, 2011 and 2016**. Eurostat (online data code: trng_lfs_01);*
Source: http://ec.europa.eu/eurostat/statistics-explained/index.php/Adult_learning_statistics (Accessed on: 16th April 2018)

*Jelić P., Martić Kuran L., Bosnić I. (2012): **Značaj cjeloživotnog učenja s osvrtom na financiranje iz fondova Europske Unije, Praktični menadžment**. Vol. III, no. 4, pp. 62-70;*
Source: https://hrcak.srce.hr/96967 (Accessed on: 2nd March 2018)

*Radeka I. (2007): **Uloga nastavnika u cjeloživotnom obrazovanju, Pedagogijska istraživanja.** 4 (2), pp. 283-291;*
Source: https://hrcak.srce.hr/118297 (Accessed on: 16th February 2018)

*Pastuović N. (2008): **Cjeloživotno učenje i promjene u školi, Odgojne znanosti**. Vol. 10, no. 2, 2008, pp. 253-267;*
Source: https://hrcak.srce.hr/29568 (Accessed on: 16th February 2018)

Agency for Vocational Education and Adult Education;
Source: http://www.asoo.hr (Accessed on: 12th April 2018)

Croatian Qualifications Framework Act (2013);
Source: https://narodne-novine.nn.hr (Accessed on: 10th January 2018)
*Kuka E. (2012): **Koncept neformalnog obrazovanja Život i škola**. no. 27, year 58, pp. 197-203;*
Source: https://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=125458 (Accessed on: 18th January 2018)
***Memorandum on Lifelong Learning,** working material of the Commission. Brussels, 30th October 2000;Source: www.hzpou.hr/download.php?downloadParams=webartfile|22 (Accessed on: 20th January 2018)*
***Report of the Committee for Croats outside the Republic of Croatia on the Proposal of the State Budget of the Republic of Croatia for 2018 and Projections for 2019 and 2020**;*
Source: http://www.sabor.hr/izvjesce-odbora-za-hrvate-izvan-republike-hrva0013?dm=2
(Accessed on: 12th April 2018)
Unified Register of Entrepreneurial Infrastructures
***Source:** http://reg.mingo.hr/pi/public (Accessed on: 12th April 2018)*
Strategy of Education, Science and Technology
Available at: https://mzo.hr/hr/strategija-obrazovanja-znanosti-tehnologije)
(Accessed on: 16th April 2018)
*Ministry of Finance, **State Budget for 2018**;*
Source: http://www.mfin.hr/hr/drzavni-proracun-2018-godina (Accessed on 5th April 2018)
*Vukovar-Srijem County, **Budget for 2018**;*
Source: http://www.vusz.hr/info/financije-1, (Accessed on 5th April 2018)
*Osijek-Baranja County, **Budget for 2018**;*
Source: http://www.obz.hr/hr/index.php?tekst=1675 (Accessed on 5th April 2018)
*Slavonski Brod-Posavina County, **Budget for 2018**;*
Source:
http://www.bpz.hr/dokumenti_3/proracun_i_financije/financijska_izvjesca_za_2018_g/default.aspx#.WtWdDohuZPY (Accessed on 5th April 2018)
*Virovitica-Podravina County, **Budget for 2018**;*
Source: http://www.vpz.hr/proracun/, (Accessed on 5th April 2018)
*Požega-Slavonia County, **Budget for 2018**;*
Source: https://www.pszupanija.hr/dokumenti/category/47-odjel-za-proracun-i-financije.html (Accessed on 5th April 2018)
***Strategic Framework - Education and Training 2020 - ET 2020**;*
Source: http://ec.europa.eu/education/policy/strategic-framework_hr (Accessed on: 13th April 2018)
Country Reports od the Education and Training Monitor
Source: https://ec.europa.eu/education/sites/education/files/monitor2017-hr_hr.pdf
https://ec.europa.eu/education/sites/education/files/monitor2017-factsheet-hr_en.pdf
(Accessed on: 19th April 2018)

Helga Maškarin Ribarić, Ph.D.
University of Rijeka, Faculty of Tourism and Hospitality Management
Primorska 42, 51410 Opatija
Phone: 00 385 51 294 882
E-mail: helgam@fthm.hr

Dražen Derado, Ph.D.
University of Split, Faculty of Economics
Cvite Fiskovića 5, 21000 Split
Phone: 00 385 21 430 681
E-mail: dderado@efst.hr

Vedrana Čikeš, M.A.
University of Rijeka, Faculty of Tourism and Hospitality Management
Primorska 42, 51410 Opatija
Phone: 00 385 51 689 310
E-mail: vedrana.cikes@fthm.hr

INTERNATIONAL COMPARISON OF PRODUCTIVITY IN MANUFACTURING AND SERVICES WITH REFERENCE TO SICKNESS LEAVES[1]

MEĐUNARODNA USPOREDBA PRODUKTIVNOSTI U PRERAĐIVAČKOM I USLUŽNOM SEKTORU S OSVRTOM NA ODSUTNOST S POSLA ZBOG BOLESTI

ABSTRACT

Labour productivity determines perspectives of a long term economic growth, while achieved level of productivity depends upon various factors such as: realized level of economic development, dominant economic structure and state of technological advance. Investigation of labour productivity is important for the EU because of recent economic crisis and relatively slow economic recovery, but also because of the existing development gap among its member states. This gap ultimately determines dynamics of productivity growth across constituent parts of the EU. This research includes cross-country comparison of labour productivity in traditional services sector (tourism and hospitality), while referring to both services sector and manufacturing sector productivity of the EU countries. This is the more important because of high labour content of services, including those which create high value added. In this context, absenteeism is an important variable with considerable impact on productivity. As a complex socio-economic construct absenteeism asks for special attention most notably in labour intensive services sector, due to its potentially high impact on business results, including productivity. Research results show that Croatia considerably lags behind the productivity level of the majority of other EU countries, while having relatively high productivity in tourism, as shown through international comparison. It has been also shown that Croatian tourism sector realizes better indicators of absenteeism what further adds to its productivity. The paper also indicates possible problems for further productivity

[1] The authors gratefully acknowledge financial support from the University of Rijeka project research grant ZP UNIRI 3/2016.

growth in Croatian tourism which, together with low productivity level in industry, might endanger the general productivity level, as well as expected growth of Croatian economy.

Key words: *labour productivity, services sector, tourism, sick leave, EU.*

SAŽETAK

Produktivnost rada određuje dugoročne granice gospodarskog rasta, a pritom sama produktivnost ovisi o brojnim ekonomskim faktorima u koje spadaju: zatečeni stupanj gospodarskog razvoja, prevladavajuća gospodarska struktura i stupanj tehnološkog razvoja. Istraživanje produktivnosti rada posebno je značajno za Europsku uniju zbog nedavne gospodarske krize i sporog izlaska iz recesije, ali i zbog relativno velikog razvojnog jaza koji još uvijek postoji između njezinih zemalja članica, a koji ima snažan utjecaj na dinamiku produktivnosti rada u pojedinim zemljama. Ovo istraživanje uključuje međunarodnu usporedbu produktivnosti rada u tradicionalnom uslužnom sektoru (turizam i ugostiteljstvo) na način da ukazuje na odnos produktivnosti rada u uslužnom sektoru i sektoru prerađivačke industrije za zemlje EU. To je posebno važno zbog relativno visoke radne intenzivnosti sektora usluga, čak i onih usluga koje ostvaruju visoku dodanu vrijednost. Apsentizam se u tom kontekstu promatra kao dodatni pokazatelj stanja u promatranim sektorima, ali i kao varijabla koja signifikantno određuje razinu produktivnosti. Apsentizam predstavlja kompleksan socio-ekonomski, a njegovo istraživanje u uslužnim djelatnostima zaslužuje posebnu pažnju zbog potencijalno velikog utjecaja na poslovne rezultate, pa tako i produktivnost rada. Rezultati istraživanja pokazuju da Hrvatska značajno zaostaje za produktivnosti rada većine zemalja EU, ali da u međunarodnim usporedbama ostvaruje relativno visoku produktivnost u turizmu. Također, pokazuje se da hrvatski turistički sektor ostvaruje niže pokazatelje odsutnosti sa posla što dokazano doprinosi većoj produktivnosti rada. Ipak, u radu se naglašavaju realna ograničenja daljnjeg rasta produktivnosti rada u hrvatskom turizmu, kao i implikacije nedovoljno visoke produktivnosti rada u industriji na ukupnu razinu produktivnosti i gospodarski rast Hrvatske.

Ključne riječi: *produktivnost rada, uslužni sektor, turizam, odsutnost zbog bolesti, EU.*

1. Introduction

Economic efficiency is a fundamental question equally important at macroeconomic level as well as for individual business entities. Its relevance stretches through both good times and bad times, and across countries, irrespective of their level of development. High efficiency makes possible increasing investment, thus resulting in structural economic change, dynamic economic growth and ultimately, increasing standard of living. Essential indicator of economic efficiency is labour productivity which, together with capital and total factor productivity, measures relation between invested resources and output of an economic activity. Labour productivity is influenced by a number of exogenous and endogenous variables. Absenteeism, as one of these, is associated with productivity loss and therefore has been in focus of many studies both in economics and other social sciences (Bacharach et al., 2010; Bamberger & Biron, 2007; Lau et al., 2003; Patton, 2011; Rhodes & Steers, 1990). A large amount of research has been conducted on absenteeism and this resulted in various definitions, each highlighting specific aspects of this construct. Absenteeism is considered a temporary withdrawal from the organization (Mathis & Jackson, 2004) and is commonly interpreted as employee's intentional or habitual absence from work (Cucchiella et al., 2014). More specifically, it is seen as "…the manifestation of a decision by an employee not to present themselves at their place of work at a time when it is planned by management that they should be in attendance." (Eurofound, 2010). Employee's attendance at work is determined primarily by his or her ability and motivation to work (Steers & Rhodes, 1978). These two aspects (ability and motivation) imply two essential forms of absenteeism: a) voluntary absenteeism – directly influenced by an employee (in some appearance forms – e.g. uncertified sickness – it reflects job dissatisfaction and low organizational commitment of an employee), and b) involuntary absenteeism, which is beyond employee's immediate control. The relationship between absenteeism and productivity is fairly straightforward. Absenteeism means that a job in the production or business process will be vacant and will, thus result in a production, or economic decline, whose intensity will depend, among other things, also on the availability and quality of the replacement (Barmby et al., 2000). Absenteeism is usually measured in two ways – as time lost (Steel, 2003) and absence frequency (Chadwick-Jones et al., 1971; Tompa, 2013). In general, at the company level different types of absenteeism are distinguished and regularly recorded (e.g. sickness leave, vacation, maternity leave, military service, personal days off, etc.), while at the aggregate (national) level, the data are generally derived from one of two sources – either health insurance statistics, or various types of surveys (employers or individuals), (Prins, 2013). The former source is more comprehensive, but usually covers only the population covered with social security and those individuals whose absence is caused by sickness (Eurofound, 2010). Nevertheless, this data source represents a reliable indicator of the extent of absenteeism and is therefore more suitable for use in explaining the relationship between absenteeism and different efficiency measures of the national economy.

Croatian tourism, which currently goes through its booming phase, contributes to GDP by 18% and achieves a 6,5% share in employment[2]. Currently and together with increasing private consumption, tourism significantly contributes to GDP recovery after six years of recession. Hence, an estimated GDP growth in 2017 of 3,1% and an expected surplus in current account of 3,7% certainly confirms these positive developments. Bearing in mind that labour productivity determines long term economic growth, the question arises as to how high are in this regard the potentials of Croatian tourism sector. By saying so, we hypothesize that high labour content makes productivity in tourism very susceptible to various factors influencing the human feature of the productivity equation (Bailey & Zitzewitz, 2001; Dean & Kunze, 1992), whereas absenteeism is one of them. Hence, insufficient productivity in services sector *vis-à-vis* manufacturing could provide weak and insufficient contribution to economic growth. Absenteeism and its relation to productivity is an under-researched topic in tourism. Scarce literature on absenteeism in tourism and hospitality industry most commonly observes and measures absenteeism solely as days of absence from work due to illness (Pizam & Thornburg, 2000; Navarro & Bass, 2006; Miroslav & Maškarin Ribarić, 2013) and this paper will follow the same methodology.

The remainder of the paper is organized as follows. The second chapter gives a cross-country overview of labour productivity in the EU with respect to services and tourism on one hand and industry and manufacturing on the other. Third chapter deals with absenteeism, i.e. sickness leave as a variable that influences labour productivity, while final chapter concludes.

2. Croatian labour productivity in the EU context

Generally speaking, EU countries show large differences in terms of level and dynamics of labour productivity, although common characteristic for all of them is a slowdown in growth as a consequence of financial (2008/2009) and economic crisis. Labour productivity of European economies is still not on the stabile growth path, although it has been estimated that the biggest contribution to productivity growth comes from manufacturing and business sector services. Common characteristic of these sources of productivity growth are reduction in employment and capital deepening, mostly as a result of increasing use of the ICT (OECD, 2015; Bosworth & Triplett, 2007).

[2] Croatian share of tourism in GDP is unrivalled in the EU, since in other traditional tourist countries like Greece, Malta and Cyprus, this share lies within a 7-9% range (IMF, 2018).

According to labour productivity measured as a GDP-to-hours worked ratio[3] leading EU economies stand out with highest values of labour productivity (Table 1). In 2016 these countries realize productivity far beyond that of the EU average, whereas some of them (Germany, United Kingdom, France, Italy and Spain) exceed manifold the average of EU. All other countries achieve productivity below EU average, whereas for some of them (Sweden, Belgium, Poland, Austria, Denmark and Ireland) productivity level lies above 50% of the EU average. The remaining countries realize productivity well below the EU average. In 2016 Croatia realized EUR 10,9 mn of GDP per hour worked which comes to only 9% of the EU average. When compared to figures from 2005 (8,7%) it is obvious that unlike some other countries, which have doubled their initial productivity levels from 2005, Croatia did not achieve any significant (positive) move in that respect. Since significant increase in productivity level occurred mostly in countries with initially low productivity, this advance did not change positions of the leading countries in terms of productivity level. When productivity is calculated on the basis of GDP in units of purchasing power standards (PPS) top positions among EU countries do not change as Germany, France, United Kingdom, Italy, Spain, the Netherlands and Poland lead the way (Table 1).

***Table 1** Labour productivity and labour cost indicators for EU*

	LABOUR PRODUCTIVITY				UNIT LABOUR COST
	GDP at current prices (EUR mn)		GDP (PPS mn)		GDP (PPS mn)
	2005	2016	2005	2016	2016
EU28	2.662,58	3.462,43	2.662,58	3.462,43	473,60
EA19	1.955,80	2.524,05	1.949,19	2.467,76	475,86
BEL	72,87	98,26	69,44	89,98	494,38
BUL	5,53	11,23	15,40	23,56	418,44
CZE	24,63	40,71	42,81	62,31	404,05
DEN	50,78	68,94	37,53	51,35	523,11
GER	533,10	731,99	519,14	690,60	508,33
EST	2,62	5,01	4,43	6,84	493,47
IRE	40,31	65,42	33,86	59,32	293,74
GRE	43,34	37,56	51,96	45,76	335,16
ESP	211,53	261,04	233,62	289,87	476,39
FRA	415,57	529,17	385,37	483,23	520,30
HRV	8,28	10,93	12,72	17,17	460,30
ITA	347,68	398,00	345,53	405,48	398,51
CYP	3,42	4,13	3,96	4,65	444,45
LAT	3,09	5,92	5,93	8,76	464,32
LIT	5,13	9,37	10,01	15,27	437,80
LUX	7,06	12,46	6,34	10,31	491,44
HUN	21,33	26,87	34,34	45,56	426,64
MAL	1,19	2,31	1,77	2,83	421,50
NDL	128,90	165,19	122,11	148,93	483,61
AUT	55,27	79,37	53,26	72,98	481,44
POL	54,80	97,29	46,92	174,77	380,21
POR	36,67	42,29	46,92	53,12	442,43
ROM	18,63	40,41	40,92	79,55	338,70
SLO	6,55	9,39	9,12	11,55	492,60
SVK	9,12	18,85	17,58	28,28	393,24
FIN	39,03	51,74	33,87	42,07	483,63
SWE	73,28	109,90	60,98	84,38	468,78
GBR	451,27	538,24	370,61	462,64	493,50

Source: Eurostat, 2018.

With reference to large gaps in productivity level among EU nations (e.g. Germany vs. Malta) one might expect that countries with initially low level of productivity have realized higher growth rates. Although these countries have generally realized higher growth rates that EU28 on average,

[3] GDP at market prices and hours worked incorporating both full- and part-time work throughout the paper.

for the majority of new member countries form Central and Eastern Europe these figures were not enough to considerably reduce negative gap towards leading economies. This problem will be even more pronounced in near future since some of the countries which already either exceed the EU average, or at least 50% of the EU average (like Germany, Poland, Romania, Austria and Czech Republic) have recently realized above average productivity growth.

With reference to unit labour costs Croatia is placed close to the EU average what is not so good concerning its large productivity gap towards other EU countries. Generally, it can be observed that the highest unit labour costs achieve countries with highest labour productivity. However, correlation coefficient between unit labour costs and labour productivity (both in EUR in current prices) is 0,32 and indicates still large disproportion between countries' unit labour costs and productivity and consequently much scope for further adjustments among EU countries[4]. When comparing productivity indicator and unit labour costs, both expressed in purchasing power standard, their correlation coefficient is even lower (0,27).

Analysis of productivity by economic activity indicated that industrial sector regularly achieves higher productivity in all countries (exceptions being Luxemburg and Malta), while some of them have relatively low productivity gap in services, as compared to industry. To this group belong Croatia, Baltic countries, Cyprus, Romania and Slovenia. Overall, productivity has considerably increased over the period 2008-2015 with different countries having realized different productivity growth, whereas increase across sectors and economic activities is more balanced on a country basis (Table 2).

Table 2 *Labour productivity of selected sectors and economic activities (NACE Rev.2.) for EU*

	INDUSTRY		MANUFACTURING		SERVICES		TOURISM	
	B-F		C		G-N*		I	
	level 2015	growth 2008-2015	level 2015	growth 2008-2015	level 2015	growth 2008-2015	level 2015	growth 2008-2015
EU28	12.913,70	-	13.218,04	-	9.682,89	-	4.742,82	-
BEL	18.662,52	13,9	21.697,79	15,1	13.770,81	16,5	6.178,01	16,1
BUL	5.529,21	12,4	4.704,71	8,5	4.598,47	13,3	2.034,22	8,4
CZE	6.452,65	11,8	6.426,65	9,4	5.047,97	13,1	2.181,94	9,6
DEN	16.188,22	12,3	15.761,92	17,2	13.514,51	16,4	7.173,10	19,9
GER	11.427,29	15,2	12.072,86	12,7	7.827,26	15,3	2.998,99	13,2
EST	11.736,30	14,4	10.898,77	14,0	11.108,18	14,8	5.212,60	14,4
IRE	28.626,54	17,1	42.491,90	5,1	7.726,25	16,8	2.385,92	1,8
GRE	6.950,59	6,2	6.786,85	1,5	3.224,95	6,7	1.593,55	0,5
ESP	11.011,71	8,0	11.526,90	9,5	7.237,59	10,5	4.244,17	9,2
FRA	10.851,94	15,4	11.218,76	13,7	9.294,96	15,4	6.822,96	17,5
HRV	5.727,04	12,4	4.856,81	11,0	5.209,07	10,9	3.932,13	16,4
ITA	11.205,72	16,3	11.458,44	15,1	7.988,56	16,9	4.297,59	14,9
CYP	6.342,44	6,1	5.594,03	9,6	5.878,55	9,0	4.559,32	10,9
LAT	8.989,81	6,9	8.398,80	4,6	7.656,88	8,6	3.697,65	4,5
LIT	7.121,23	13,3	7.452,99	12,1	6.271,46	16,5	2.829,24	14,7
LUX	17.080,14	14,1	18.488,28	16,3	22.865,93	11,9	8.719,86	14,7
HUN	12.611,80	13,3	13.743,79	14,3	7.815,19	16,0	3.427,97	14,8
MAL	2.197,40	2,9	-	17,4	8.852,13	-	4.400,80	19,8
NDL	15.271,43	16,6	15.700,10	19,9	8.872,28	20,0	3.930,65	20,3
AUT	16.778,08	16,3	17.769,12	18,4	12.228,70	18,6	6.368,64	18,6
POL	6.485,43	17,1	6.129,06	16,7	4.521,06	18,8	2.585,93	20,5
POR	5.013,67	13,1	4.811,04	10,1	3.595,14	13,2	2.223,18	9,8

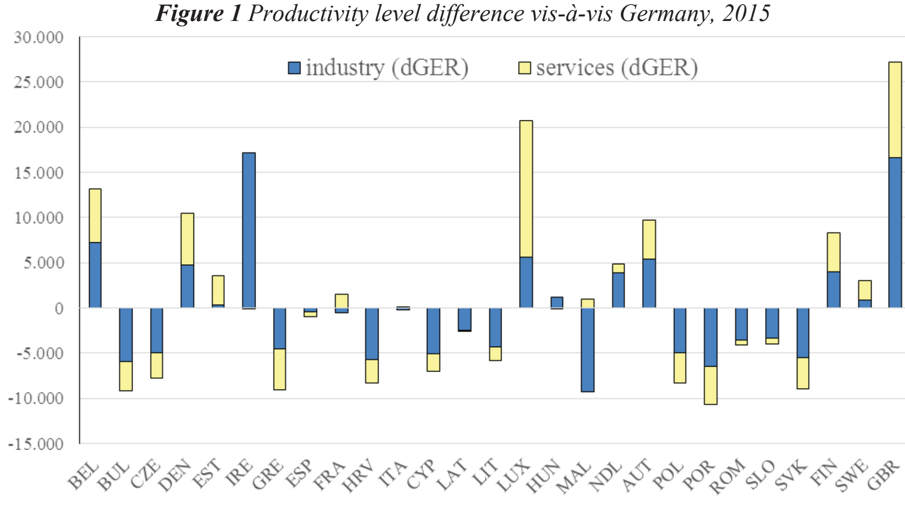
[4] Adjustments in unit labour costs usually need a longer period to occur. Over the analysed period 2005-2016 Ireland and Romania managed to significantly cut down labour costs by 24% and 12,9%, respectively, while strong growth occurred in Bulgaria, Baltic countries and Slovakia, thus indicating no real convergence in unit labour costs across EU. Meanwhile, Croatia achieved a modest increase of unit labour costs by 4%.

	INDUSTRY		MANUFACTURING		SERVICES		TOURISM	
	B-F		C		G-N*		I	
	level 2015	growth 2008-2015	level 2015	growth 2008-2015	level 2015	growth 2008-2015	level 2015	growth 2008-2015
ROM	7.888,09	15,3	6.903,05	15,5	7.306,11	17,1	3.595,32	12,8
SLO	8.093,50	11,2	8.648,02	9,4	7.144,51	13,4	4.056,62	9,1
SVK	5.928,98	13,7	6.099,94	9,4	4.364,50	18,2	1.691,81	6,2
FIN	15.421,69	15,5	16.018,96	18,5	12.090,53	17,3	6.637,87	17,6
SWE	12.332,30	13,7	13.422,96	15,6	9.897,81	17,1	4.848,50	15,2
GBR	28.049,08	20,8	24.945,75	24,1	18.432,85	23,8	7.788,68	25,0

Source: Eurostat, 2018

However, in some countries differences in productivity growth on sectoral level are more pronounced. On one hand, some countries have realized significantly stronger productivity growth in services and tourism[5], while on the other hand modest productivity growth is present in some new member countries like Bulgaria, the Czech Republic, Slovenia, Slovakia, but also Ireland and Greece. Croatian productivity growth is more balanced across sectors and economic activities, yet more modest than that in the rest of the EU and with tourism as a nation's leading with an average annual productivity growth of 16,4% (2008-2015). Relative position of Croatia and other countries towards Germany as the leading European economy can be grasped from Figure 1. Productivity in industry and services of EU countries, calculated as a difference to German productivity clearly indicates 'leaders' and 'followers' in terms of productivity in Europe. Scandinavian countries, the Benelux countries, together with United Kingdom, Ireland and Austria achieve higher productivity levels both in industrial sector and services. Meanwhile, all other countries, including Croatia, follow behind.

Figure 1 *Productivity level difference vis-à-vis Germany, 2015*



Source: Eurostat, 2018

[5] These are the countries which stand out in terms of positive developments in productivity in general like Denmark, the Netherlands, Austria, Finland, Sweden and France.

Indicator of wage-adjusted labour productivity[6] represents a weighted percentage of productivity in total labour cost. According to this indicator Croatia rates high among other analysed countries as it takes fourth place, just behind Cyprus, United Kingdom and Malta. This means that Croatia has higher rate of labour productivity to paid labour cost that the majority of analysed countries and certainly above Greece in which created value added in tourism goes below actually realized labour costs (Table 3). High wage-adjusted labour productivity in Croatian tourism indicates positive developments in the sector (high efficiency and profitability) which certainly confirms strong international competitiveness of Croatian tourism. However, in comparison with other economic activities of Croatia tourism rates better only than professional, scientific and technical activities (M) and administrative and support service activities (N). Similar situation can be observed in the rest of the EU. Anyhow, Croatian tourism has made big step forward in 2015, compared to 2008 when wage-adjusted labour productivity index of 133,3% positioned Croatia eleventh among 14 analysed countries, whereas on national level it was sector with lowest productivity. The relatively low ranking of Croatian tourism on national scale and its relatively good position among selected countries indicates its fairly good international competitiveness, yet with potentially modest contribution to economic development on national scale.

Table 3 *Wage-adjusted labour productivity (productivity as a percentage of labour costs) for EU, 2015*

	PRODUCTIVITY		PRODUCTIVITY
EU28	127	**LAT**	127,7
EA19	-	**LIT**	129,2
BEL	116,4	**LUX**	118,5
BUL	136,7	**HUN**	118,5
CZE	108,0	**MAL**	157,4
DEN	124,8	**NDL**	150,8
GER	139,2	**AUT**	124,5
EST	128,4	**POL**	135,7
IRE	116,1	**POR**	120,9
GRE	99,2	**ROM**	154,9
ESP	109,3	**SLO**	115,5
FRA	111,0	**SVK**	103,1
HRV	155,3	**FIN**	112,5
ITA	105,3	**SWE**	101,9
CYP	189,1	**GBR**	167,6

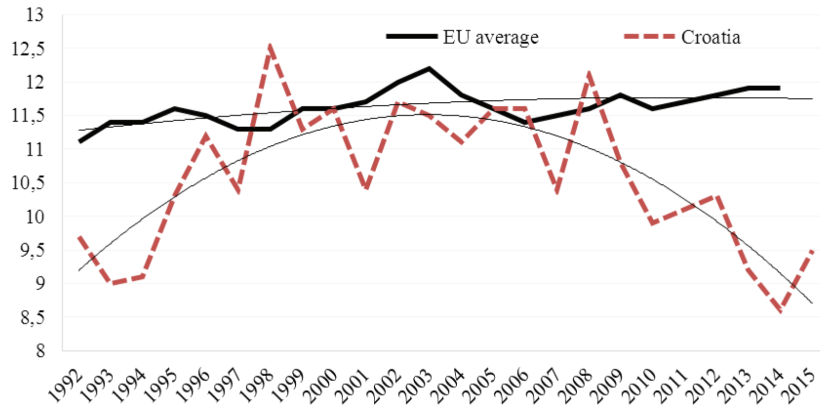
Source: Eurostat, 2018

3. Labor productivity and sickness leaves

According to the Eurostat, the EU member countries spent overall EUR 138 bn on paid sick leave benefits in 2014 which amounted to app. 1% of GDP of the EU as a whole. In Croatia sick leave payments totalled in 2,76% of GDP in 2014 (compared to 2,85% in 2013). Out of these, 1,25% were covered by employers, which means they were regarded as sickness leaves of up to 42 days, whereas 1,51% of the payments were covered by social security system (sickness leaves lasting for more than 42 days), (more in: Spasova et al., 2016). Figure 2 compares sickness leave data of Croatia and the EU average (days per employee per year). Throughout the observed period (1992-2015), the indicator was lower for Croatia than for its European counterparts on average, with the only exceptions of years 1998, 2006 and 2008 when Croatian figures went beyond those of the EU. Added trend lines clearly indicate differences in Croatian absenteeism *vis-à-vis* those of the EU. After convergence to the European levels and the peak period which lasted from 2000 to 2008, Croatian sickness leave data started to fall, thus announcing a steady divergence from the EU level.

[6] Labour-productivity indicator calculated as value added-to-personal cost ratio and adjusted by the share of the paid employees in total employment. Personal cost is defined as total remuneration to an employee and includes wages, salaries and social contributions.

Figure 2 *Absenteeism from work due to illness (days per employee per year)*



Source: WHO Europe, 2018

As absenteeism is one of the variables influencing productivity, the relationship between these two variables may be written in a simple linear regression form:

$$y_t = \beta_0 + \beta_1 x_t + \varepsilon_t \qquad (1)$$

where y is a measure of productivity (PROD_HR), expressed as GDP (PPS) per hours worked,

while x is an annual average number of sick days per employee (ABS_HR); ε is the residual term.

This regression model is tested for available data for Croatia and the EU28 average. Due to cross-national differences in institutional contexts[7], resembled in different benefit levels, job protection and certification procedures, there are substantial differences in recorded levels of sickness leaves on national levels (Prins, 2013). This makes any direct comparison between different national statistics very difficult (Eurofound, 2010). However, comparison of the EU average and Croatian national data make sense in a way that the EU28 average data reflect all the heterogeneity of the sample and theoretically represent a relatively valid benchmark. The function is estimated using the ordinary least square (OLS) method. The model is tested by using annual data for productivity and average number of sick leave days per employee per year, for EU28 average and Croatia for the period of 11 years (2005-2015). The tests returned insignificant results for the EU28, but good fit for Croatia. The estimated function for Croatia is:

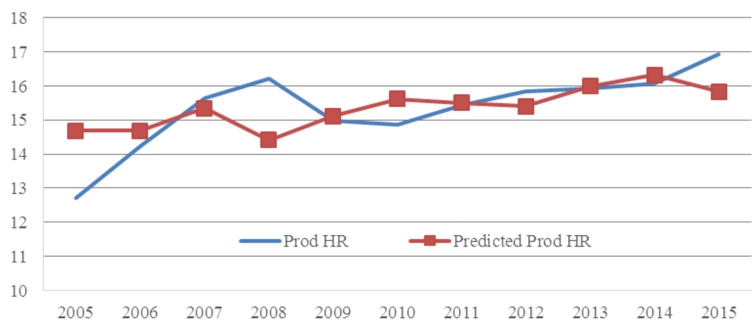
$$PROD\_HR = 21{,}03298 - 0{,}547527 ABS\_HR$$

The estimated equation parameter shows that, if absenteeism increases by one unit (one sick day per employee per year), productivity will decrease by 0,54 units of GDP (PPS). The diagnostic statistics show that the coefficient of the independent variables is significant at 10% level and have the correct sign. In the attempt to investigate the performance of the specified model some basic diagnostic statistics are performed. The presence of serial correlation is tested using the Breusch-

[7] This refers to different concepts of welfare state, and hence social security systems, which prevail in different EU member countries (from strong social security systems to fully liberal welfare regimes).

Godfrey test (Annex: Table 1). The residuals are analysed for normality by using the Jarque-Berra test statistics (Annex: Figure 1) and White test (Annex: Table 2) was used to test the model for the presence of heteroscedasticity. All the performed diagnostic statistics show that the model passes all the tests. The R^2 of 0,272 shows that 27% of the variation in productivity can be explained by the chosen independent variable, i.e. sickness leave. As shown in Figure 3 the model fits the data reasonably well throughout the sample period.

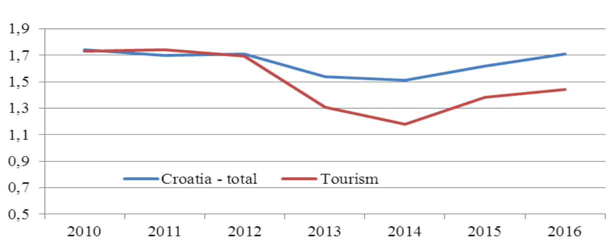
Figure 3 *Fitted versus actual data of productivity; time bounds: 2005-2015*



Source: Authors

The model fits the general movement of the analysed series during the entire sample period. The forecast results are reasonably good and the predicted values, are quite close to the actual values. The MAPE and the RMSE of the fit are 4,4 and 0,92 respectively. As the Theil's U-coefficient is less than one (0,03), the model performs well in forecasting productivity in Croatia (Annex: Figure 2). Since the analysed sample is very small (i.e. time series is short) this indicative model can be considered as good starting point for future more detailed and systematic analysis of the topic. Figure 4 compares average rates of sick leave[8] for Croatia as a whole (all economic activities) and tourism *(NACE Rev. 2 (2008): I – Accommodation and Food Service Activities)*. According to the data presented sick leave rates in tourism are lower than those for the whole economy, and they even register a stronger decline from 2010 onwards. In an international comparison, tourism sector in Croatia is not an exception. Generally, it has been observed that employees in public administration, education and manufacturing sector show highest levels of sickness absence, whereas lowest rates are traditionally found with employees in agriculture, business services and especially tourism.

Figure 4 *Average sick leave rate for Croatia, 2010[9] – 2016*



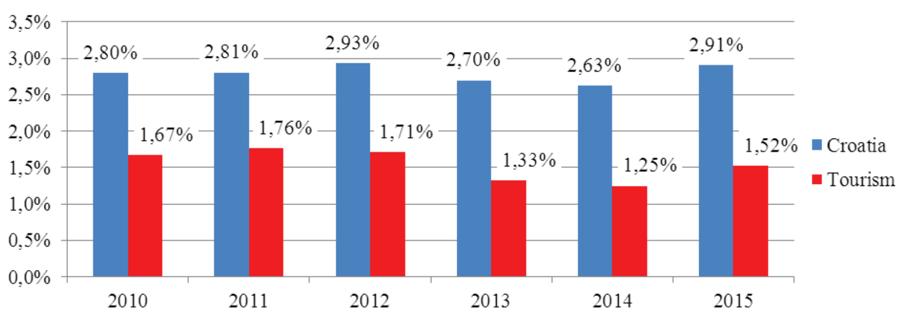
Source: Croatian Health Insurance Fund, 2010-2016

[8] Sickness leave rate is a ratio of daily sick employees to total number of employees (active and insured persons). The ratio is also referred to as "temporary work disability rate".

[9] Due to a break in statistical data collecting methodology and changes in data coverage, data for tourism can be consistently followed only from 2010.

From the economic point of view, it is important to quantify the effects of time lost due to sickness on productivity. For the purpose of sickness cost assessment different models can be used, e.g. Human Capital Approach (HCA) or Friction Cost Method (Koopmanschap et al., 1995). HCA is a straightforward calculation of production loss that simply multiplies the time lost by the absent employee's wage (Johannesson, 1996). The main advantage of this method is its simplicity, while its main shortcoming is an implicit assumption that an individual's wage is appropriate measure of the total value of productivity (Howard et al., 2012). For the purpose of this research, the HCA method will be used to assess the effects of time lost on gross value added as a measure of productivity. In order to assess the cost of time lost due to work disability the number of total days of temporary work disability for both entire Croatian economy and Croatian tourism only, were multiplied by the average monthly labour cost per hour actually worked. The resulting cost of time lost is expressed as a percentage of gross value added and the advantage of the tourism sector to Croatian economy as a whole is obvious. Lower average labour cost per hour actually worked as well as relatively lower number of days of temporary work disability (i.e. lower sickness rate) for tourism result in lower share of cost of time lost in gross value added. This share ranges between 1,25% and 1,76% for tourism, and between 2,63% and 2,93% for the whole country.

Figure 5 *Cost of time lost due to work disability (% of gross value added)*



Source: Croatian Bureau of Statistics, 2016-2017; Croatian Health Insurance Fund, 2010-2016

The results indicate that tourism performs better than Croatia on average according to sick leave (absenteeism) indicators. This is the more important since higher sick leave rates affect productivity in service sector more negatively than e.g. in industry. One of the reasons for that is that labor substitution (for the absent employee) is more difficult in occupations which incorporate personal relationship with client (services) and where flexibility of production schedule is limited, since services cannot be easily rescheduled and losses from absenteeism cannot be addressed through overtime work (Herrmann & Rockoff, 2012; Koopmanschap et al., 2013).

4. Conclusion

EU is quite heterogeneous regarding labour productivity on the aggregate level – while on one hand most developed member countries exceed by multiple times the EU average, on the other hand new member states generally reach below 50% of the EU productivity level. In the last decade Croatian productivity developed with stronger magnitude than that of the EU – before the 2008 crisis it grew at higher rates, while afterwards it registered a stronger decrease. This implicitly indicates large instability of Croatian economy which was proved through a longer period (six years) of recovery from the crisis. Despite expectations that countries with initially lower productivity will realize higher productivity growth rates, this is only partially confirmed in the case of the EU. In reality, EU countries with lower productivity level mostly realized below average growth rates what, for the majority of them, made their relative positions in the EU unchanged. Analysis of productivity by sectors and economic activities further proves divergence among the EU countries. Most of the developed countries realize higher productivity in industry and manufacturing, while services sector and tourism considerably lag behind in terms of gross value added per employee. Unlike them, productivity gap of services sector towards industry is in Croatia the smallest among the EU members, since Croatian tourism reaches just about 20% lower productivity level than that of manufacturing. Additionally, realized dynamics of Croatian productivity growth in recent years was insufficient to improve Croatian productivity level and change the country's relative position *vis-à-vis* the rest of the EU. Therefore, Croatia still remains in the group of less successful countries in terms of industrial productivity, with significantly better productivity figures in tourism. However, high labour intensity makes tourism productivity very susceptible to various factors influencing the human feature of the productivity equation with absenteeism being one of them, because every hour lost due to sickness stands for a certain loss in productivity. Absenteeism from work due to illness proved to be lower in Croatia than on the average in Europe. Average rate of sick leaves in Croatia is lower in tourism industry than for the whole economy on average. If the cost effects of time lost on gross value added (as a productivity measure) is assessed, based on the assumptions of HCA method (production loss equals time lost multiplied by labour cost), then share of lost productivity due to sick leaves is up to 50% lower in tourism than overall in Croatia. This is yet another proof of competitiveness and profitability of Croatian tourism sector per se. In the EU Croatia is the only economy in which productivity in services (highly productive finance and insurance services are excluded) is higher than productivity in manufacturing. These figures show high importance of services sector and tourism in particular for Croatian economy, what makes studies into productivity in tourism even more important, both from the point of economic efficiency of the national economy, and profitability of business sector. Analysis reveals that despite its relatively high productivity in an international comparison (across EU countries), tourism generally remains a low productivity sector with productivity level below that of the majority of other economic activities all over the EU. More broadly, and related to tourism, low productivity in Croatian manufacturing should be a matter of concern due to its strong impact (through spill-over effects) on general productivity level, which includes other sectors and economic activities. This implicitly shows that despite its very good performance in Croatia, tourism sector on its own will probably be unable to make possible sustainable economic growth in a long run (higher growth rates) and this should be a clear message to policy makers. Thus, productivity growth should be regarded on a cross-sectional basis since productivity level and productivity growth in one sector are intrinsically related to productivity in all other sectors. In that respect it is important to look at productivity in both industry and services, especially in tourism which does not belong to highly productive professional services (like e.g. business services). Without increasing productivity in both industry and services, sustainable growth of wages will be unlikely to happen and will certainly endanger growth and development prospects of the services sector itself and tourism in particular. Further increase in demand for tourism services in Croatia will, among other things, put pressure on increasing wages, thus reducing profitability of the sector, unless considerable improvements in productivity happen. With no further productivity growth in industry this negative effect will be even more pronounced. Consequently, low productivity in Croatian tourism combined with its high share in country's GDP would continue to give a weak contribution to economic growth.

REFERENCES

Bacharach, S. B., Bamberger, P., Biron, M. (2010): ***Alcohol consumption and workplace absenteeism: The moderating effect of social support***, Journal of Applied Psychology, Vol. 95, No., pp. 334-348.

Baily, M. N., Zitzewitz, E., (2001): ***Service sector productivity comparisons: Lessons for measurement***, in Hulten, C. R., Dean, E. R., Harper, M. J., (Eds.): New Developments in Productivity Analysis, University of Chicago Press, pp. 419-464.

Bamberger, P., Biron, M. (2007): ***Group norms and excessive absenteeism: The role of peer referent others,*** Organizational Behaviour and Human Decision Processes, Vol. 103, No. 2, pp. 179-196.

Barmby, T., Ercolani, M., Treble, J.G. (2002): ***Sickness Absence: An International Comparison,*** Economic Journal, Vol. 112, No. 480, pp. 315-331.

Bosworth, B. P, Triplett, J. E. (2007): ***Services productivity in the United States***, in Berndt, E. R., Hulten, C. R. (Eds.): Hard-To-Measure Goods and Services: Essays in Honour of Zvi Griliches, University of Chicago Press, pp. 413-447.

Bycio, P. (1992): ***Job performance and absenteeism: A review and meta-analysis,*** Human Relations, Vol. 45, No. 2, pp. 193-220.

Croatian Bureau of Statistics (2016-2017), Statistical yearbooks, www.dzs.hr, [Accessed: 10. March 2018].

Croatian Health Insurance Fund (2010-2016), Annual reports, www.hzzo.hr, [Accessed: 25. February 2018].

Cucchiella, F., Gastaldia, M., and Ranieri, L. (2014): ***Managing absenteeism in the workplace: the case of an Italian multiutility company***, Procedia – Social and Behavioural Sciences, 150(2014), pp. 1157-1166

Davis, K., Collins, S. R., Doty, M. M., Ho, A., Holmgren, A. L. (2005): ***Health and productivity among US workers***, Issue Brief (Commonwealth Fund), 856, pp. 1-10.

Dean, E. R., Kunze, K. (1992): **Productivity measurement in service industries**, in Griliches, Z. (Ed.): Output Measurement in the Services Sector, University of Chicago Press, pp. 73-107.

Eurofound (2010), **Absence from work**, https://www.eurofound.europa.eu/sites/default/files /ef_files/docs/ewco/tn0911039s/tn0911039s.pdf, [Accessed: 15 January 2018].

European Foundation for the Improvement of Living and Working Conditions (2018), ***European Working Conditions Survey Integrated Data File, 1991-2015***, [data collection], UK Data Service, *7th Edition*, [Accessed: 25 January 2018].

Eurostat (2018): *Eurostat Database*, http://ec.europa.eu/eurostat/data/database, [Accessed: 10. January 2018].

Gellatly, I. R., Luchak, A. A. (1998): ***Personal and organizational determinants of perceived absence norms***, Human Relations, Vol. 51, No. 8, pp. 1085-1102.

Griffeth, R. W., Hom, P. W., Gaertner, S. (2000): ***A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium***, Journal of Management, Vol. 26, No. 3, pp. 463-488.

Herrmann, M.A., Rockoff, J.E. (2012): ***Worker Absence and Productivity: Evidence from Teaching***, Journal of Labor Economics, Vol. 30, No. 4, pp. 749-782.

Howard, K. J., Howard, J. T., Smyth, A. F. (2012): ***The problem of absenteeism and presenteeism in the workplace***, in Gatchel, R. J., Schultz, I. Z., (Eds.): Handbook of Occupational Health and Wellness, Springer Science & Business Media, Boston, pp. 151-179.

IMF (2017): **Republic of Croatia: Staff Report for the 2017 Article IV Consultation**, IMF Country Report, No. 18/5.

Johannesson, M. (1996): ***Theory and methods of economic evaluation of health care (Vol. 4)***, Springer Science & Business Media, Boston.

Koppmanschap, M., Burdof, A., Lötters, F., (2013): ***Work absenteeism and productivity loss at work***, in Loisel, P., Anema, J. R., (Eds.): Handbook of Work Disability, Springer, New York, pp. 31-41.

Koopmanschap, M. A., Rutten, F. F., van Ineveld, B. M., van Roijen, L. (1995): ***The friction cost method for measuring indirect costs of disease***, Journal of Health Economics, Vol. 14, No. 2, pp. 171-189.

Lau, V. C., Au, W. T., Ho, J. M. (2003): ***A qualitative and quantitative review of antecedents of counterproductive behavior in organizations***, Journal of Business and Psychology, Vol. 18, No. 1, pp. 73-99.

Miroslav, D., Maškarin Ribarić, H. (2013): ***Labour productivity model for the hotel industry***, Ekonomski pregled, Vol. 64, No. 4, pp. 351-375.

Navarro, C., Bass, C. (2006): ***The cost of employee absenteeism***, Compensation & Benefits Review, Vol. 38, No. 6, pp. 26-30.

OECD (2015): ***OECD Compendium of Productivity Indicators 2015***, OECD Publishing, Paris; http://dx.doi.org/10.1787/pdtuy-2015-en, [Accessed: 10 January 2018].

Patton, E. (2011): ***The devil is in the details: Judgments of responsibility and absenteeism from work***, Journal of Occupational and Organizational Psychology, Vol. 84, No. 4, pp. 759–779.

Pfeifer, C. (2010): ***Impact of wages and job levels on worker absenteeism***, International Journal of Manpower, Vol. 31, No. 1, pp. 59-72.

Pizam, A., Thornburg, S. W. (2000): ***Absenteeism and voluntary turnover in Central Florida hotels: a pilot study***, International Journal of Hospitality Management, Vol. 19, No. 2, pp. 211-217.

Prins, R., (2013): ***Sickness absence and disability: An international perspective***, in Loisel, P., Anema, J. R., (Eds.): Handbook of Work Disability, Springer, New York, pp. 3-14.

Rhodes, S. R., Steers, R. M. (1990): ***Managing employee absenteeism***, Addison-Wesley: Reading, MA.

Spasova S., Bouget D., Vanhercke B. (2016), ***Sick pay and sickness benefit schemes in the European Union, Background report for the Social Protection Committee's, In-depth Review on sickness benefits***, European Commission, Brussels.

Steel, R. P. (2003): ***Methodological and operational issues in the construction of absence variables***, Human Resource Management Review, Vol. 13, No. 2, pp. 243-251.

Tompa, E., (2013): ***Measuring the burden of work disability: A review of methods, measurement issues and evidence***, in: Loisel, P., Anema, J. R., (Eds.): Handbook of Work Disability, Springer, New York, pp. 43-58.

WHO Europe (2018), https://gateway.euro.who.int/en/indicators/hfa_411-2700-absenteeism-from-work-due-to-illness-days-per-employee-per-year/visualizations/#id=19398, [Accessed: 15 March 2018].

Annexes:

Table 1: *Results of the model testing for Croatia (Breusch-Godfrey Test)*

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.717540	Prob. F(2,7)	0.5206
Obs*R-squared	1.871457	Prob. Chi-Square(2)	0.3923

Table 2: *Results of the model testing for Croatia (White Test)*

Heteroskedasticity Test: White

F-statistic	4.431368	Prob. F(2,8)	0.0507
Obs*R-squared	5.781392	Prob. Chi-Square(2)	0.0555
Scaled explained SS	4.577471	Prob. Chi-Square(2)	0.1014

Figure 1: *Residuals Testing (Jarque-Berra Test)*

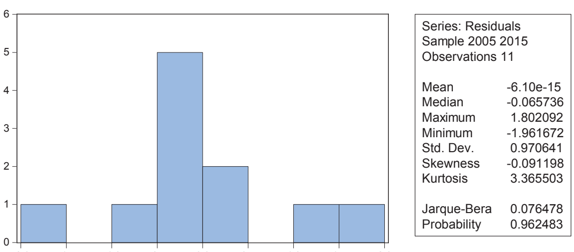
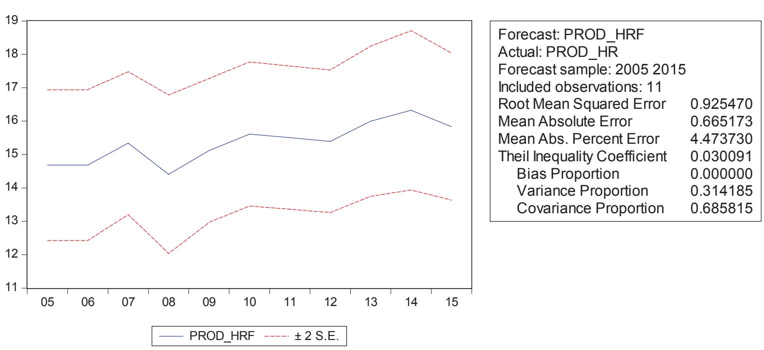


Figure 2*. Forecast of productivity, MAPE, RMSE and the Theil's Inequality Coefficient*



Associate Professor Rajko Odobaša, Ph.D.
Faculty of Law Osijek,
Stjepana Radića 13
Phone: 00 385 91 224 55 06
E-mail: rajko.odobasa@pravos.hr

Assistant Professor Ines Banjari, Ph.D.
Faculty of Food and Technology Osijek,
Franje Kuhača 20
Phone: 00 385 91 905 85 62
E-mail: ibanjari@ptfos.hr

OBESITY PREVENTION AS AN INVESTMENT IN HUMAN CAPITAL – STATE AND PERSPECTIVES IN EASTERN CROATIA

PREVENCIJA PRETILOSTI KAO ULAGANJE U LJUDSKI KAPITAL – STANJE I PERSPEKTIVE U ISTOČNOJ HRVATSKOJ

ABSTRACT

Human capital is a part of the capital of an organization based on education, skills, abilities and experience of its employees. Broadly, human capital encompasses for example, employee's health, which is the foundation of organization's stability, efficiency and competitiveness. Investment in human capital means expenditure on health, education and social services in general and in its narrow sense. Human capital investment increases productivity and competitive advantage of an organization, manifested through additional income and higher profitability. Besides companies, individuals and society gain return of investment in human capital. Employees benefit from higher net earnings and other non-cash benefits. Society benefits from increased size of the economically active population, tax revenue growth, savings on social transfers, greater inclusiveness of democratic processes, etc.
Obesity is the greatest threat of the 21st century. The burden of obesity is immense and includes numerous life-long health, social, and economic consequences that are extended far beyond the individual level. Worldwide prevalence says that 1.9 billion or 39% of adults are overweight, and 650 million or 13% are obese. Besides excess health care expenditure, obesity leads to lost productivity and foregone economic growth due to sick leave, lower productivity at work, mortality and permanent disability.
Human capital is an important factor in individual, firm and national economic growth. Therefore, investing in health is the basis for economic progress of a nation. In Croatia 38.1% of population is overweight and 20.3% are obese, with significant regional differences. The aim of the paper is to analyse the impact of high obesity rates in Eastern Croatia on human capital. A number of sector-specific measures are proposed to facilitate more effective obesity prevention measures that will consequently result in improvements in human capital and economic growth.

Key words: *human capital, investment, obesity, public health, sector-specific measures.*

SAŽETAK

Ljudski kapital je dio kapitala neke organizacije utemeljen na obrazovanju, vještinama, sposobnostima i iskustvu zaposlenika. U širem smislu ljudski kapital obuhvaća i zdravlje zaposlenika, a što je temelj stabilnosti, efikasnosti i konkurentnosti organizacije. Ulaganje u ljudski

kapital u užem smislu uključuje ulaganje organizacije u zdravlje, obrazovanje i socijalne usluge zaposlenika. Ulaganje u ljudski kapital povećava produktivnost zaposlenika i kompetitivne prednosti organizacije, a očituju se kroz povećane prihode i više stope rentabilnosti. Pored organizacije, visoki povrat na ulaganja imaju pojedinci i društvo u cjelini. Zaposlenicima rastu neto plaće, ali i druge nenovčane koristi. Koristi za društvo su povećanje broja radno aktivnog stanovništva, rast poreznih prihoda, uštede na socijalnim transferima, veća inkluzivnost demokratskih procesa, itd.
Pretilost je najveća prijetnja 21. stoljeća. Teret pretilosti je nesaglediv i uključuje brojene doživotne zdravstvene, socijalne i ekonomske posljedice koje nadilaze individualnu razinu. Prevalencija povećane tjelesne mase među odraslom populacijom u svijetu je 1,9 milijardi ili 39 posto a pretilosti 650 milijuna ili 13 posto. Pored visokih zdravstvenih troškova, pretilost smanjuje produktivnost, i usporava ekonomski rad zbog bolovanja, niže produktivnosti na poslu, mortaliteta i invaliditeta.
Ljudski kapital je najvažniji čimbenik individualnog, organizacijskog i ekonomskog rasta. Stoga je ulaganje u zdravlje zaposlenika temelj je za ekonomski progres. U Hrvatskoj 38,1 posto populacije ima prekomjernu tjelesnu masu a 20,3 posto je pretilo,, uz značajne regionalne razlike. Cilj rada je analizirati utjecaj visokih stopa pretilosti u istočnoj Hrvatskoj na ljudski kapital. Radi efikasnije prevencije pretilosti predlaže se više sektorskih mjera koje bi trebale rezultirati s porastom ljudskog kapitala i stope ekonomskog rasta.

Ključne riječi: *ljudski kapital, investiranje, pretilost, javno zdravlje, sektorske mjere.*

1. Introduction

Goal of this paper is an interdisciplinary analysis of the effect of obesity rate on health status of the population in eastern Croatia and negative effects of obesity on human capital, as the key to increased productivity, income, competitiveness and economic growth. The paper also proposes various measures for obesity prevention, which would improve health of the population and simultaneously improve the knowledge on the human potential for a company and society. Proposed measures should be used as an important tool for faster development of eastern Croatia.Deindustrialization and technological stagnancy, inadequate structure of knowledge and depopulation as some of the biggest obstacles to the economic and social development of Eastern Croatia. A significant increase in human and production potential are the fastest way for eastern Croatia to move up from the group of the least developed EU regions. *Eurostat* data in 2014 puts five counties within eastern Croatia, and almost all Croatian NUTS III regions (counties) are in the bottom third of the total of 1342 NUTS III European regions. Without Osijek-Baranja County, the bottom four counties are from Eastern Croatia (they are in the group of bottom 2.5% of the worst ranked NUTS III regions) with a development level ranging from 33 to 34% of the average development level in the EU[1].

2. On theory and determinants of human capital, investment in human potentials and benefits of additional human capital

In a continuing search for the explanation of extreme differences in economic development rates in the woldand key factor/factors of a successful development model economic theories, starting from the second half of the twentieth century, give particular attention to the role and contribution of human factor to economic development[2]. In the last fifty years, the interest in issues connected to human capital grows together with global economic changes stimulated by scientific, technological and organizational innovations. In this period, industrial manufacturing based on mechanical

[1] Bajruši, R. and Laušić, F., *Dan kada su rođene županije*, in 2018, pp. 34-35;
[2] Vranjican, S.: *Politička ekonomija.* in 2007; p. 102;

production and mass use of workforce what required only basic training reached its maximum efficiency, and parallel growth of the service sector potentiates significance of a high level of specific knowledge and skills as a subjective factor in production. Technical progress decreases the significance of human physical capabilities and increases the significance of intellectual capabilities, or »crucial importance of knowledge, technical abilities, creativity, inventions, adaptability and continual adoption of new scientific achievements«[3]. In most developed economies today production of services is prevalent, and companies »increasingly process information instead of raw materials[4]«. Increased development of new information, communication and robotic technologies had an additional contribution in creation and development of knowledge – based economy, central role of education in the economy, the increase in demand for highly educated and trained workers and significance of human capital in general. Products that are needed and wanted by increasingly more educated population can be produced with quality, speed, and in small batches only by highly educated workforce[5].

All of these changes in economic practices had an influence of a theoretical redefinition of expressions such as »human factor«, »workforce«, »work-capable population«, »subjective factor« and many others. These expressions, which mostly accentuate quantity of labor factors, are more and more often complemented of replaced by the expression »human capital«. This expression puts greater significance on the collection of existing or desirable psychophysical and mental capabilities of the employees within a frame of achieved level of technological and economic development[6].

For L. Thurow human capital consists of production skills, talents and knowledge of an individual which can be measured by the value of the output and goods produced. According to G. Becker, human capital influences the efficiency of an individual, production efficiency and economic growth, and quantity of human capital is determined by education, specialization and average health increase[7]. S. Vranjican defines human capital as »a collection of characteristics of the human factor which are relevant to the process of social reproduction on the achieved development level«. Qualitative characteristics of the human factor include »psychophysical features (health, strength, stamina, intelligence, motoric capabilities, special talents...) as well as abilities and characteristics acquired within family and society as the result of person's upbringing, education and other forms of specialization (knowledge, skills, experience, thorougness, adaptability, responsibility, creativity, inventiveness and all habits which can be used to enhance work capacity, preserve health and active lifestyle). Acquired characteristics also include readiness for additional education and specialization, acqiring new and updating existing skills which are needed due to fast technological changes in modern times«[8].

Pscyhophysical characteristics are usually acquired through genetic predispositions, while all other qualitative characteristics of the human factor are a result of conscious and continual individual, organizational and social investment in upbringing, education, training and other forms of transferring desirable knowledge, skills, habits, work ethics and so on. Although the quality of one's health status as an element of human capital is largely influenced by genetic heritage, maintaing and improving health, strength, stamina and motoric capabilities can be positively influenced through processes of individual, organizational and social investment[9]. With investment in health qualitative characteristics of human factor are being strengthened, and this, together with investment in education and training, represents the foundations of personal, organizational and social stability, efficiency and competitiveness.

Improvement of health status of employees and population in general contributes to the importance of human capital as a source of material wealth and increases relative importance of the human

[3] Vranjican, S.: *Politička ekonomija.* in 2007; p. 104;
[4] Samuelson, P. A., Nordhaus, W. D.: *Ekonomija*, in 2011; p. 256;
[5] Galbraith, J.K.: *Dobro društvo – humani plan*, in 2007; p. 68;
[6] Vranjican, S.: *Politička ekonomija.* in 2007; p. 104;
[7] Pettinger, T.: *Human capital definition and importance*, in 2017;
[8]Vranjican, S.: *Politička ekonomija.* in 2007; pp. 103-105;
[9] Goldin, C.: *Human Capital*, in 2014; pp. 19-22;

factor in relation to other sources of wealth. Unlike traditional reasoning which sees human resources primarily as a necessary expense that needs to be limited or replaced by some form of technology, human capital theory introduces people as a key factor of productivity growth and foundation of organizational and economic stability[10]. Of course, in a highly technological production environment everything revolves around »highly skilled, creative employees who can program, synchronize and service extremely complicated manufacturing machinery«[11], but can also find quick answers to inevitable process of knowledge and skills becoming obsolete. Investment in relevant characteristics of the human capital in average achieves tangible return through an income increase on individual, organizational and national level. Premium growth on high education after 1980 shows that in an information age investment in human capital is beneficial and that highly educated worker represent a special form of labour[12]. Other than becoming a key element of production, productivity, income, employment rate, competitiveness and tax income growth[13], increased human capital creates substantial non-monetary gains. These can even outperform economic returns and represent a change in political, social, family and all other dimensions of human life and interaction.

Financial and *ad hoc* expenses of the investment in human capital do not have to create a return if business and public management does not have capabilities for individualized encouraging, unification and exploitation of human potentials. In a post-industrial era, key factors of economic survival and profitability are educated, flexible, motivated and healthy human capital, management strategies that pay attention to quality and productivity and networking organizational forms that ensure polycentric decision-making, continual investment and long-term employment of the human capital. Together with necessary organizational and management abilities of entrepreneurs and managers, human capital becomes a development resource only when society possesses corresponding institutional and physical infrastructure.

3. The impact of obesity on population's health status as determinant of human capital

World Health Organization (WHO) defines health as »a condition of total physical, mental and social prosperity and more than just absence of illness or suffering«[14]. Health status of the population is not just one of the most important indicators of achieved level of social development and social stability but the key player in economic, social and all other future development. Although there is no single aggregate »health index« for a population, its health status can be monitored and analysed with the several related health indicators such as chronic and infectious disease rate, life expectancy (longevity), infant mortality rate, state of nourishment of population groups, etc. Longevity and mortality rates are the most commonly used.

Health status of the population is influenced by many biological, cultural, and ecological factors, quality of childhood life, education, employment and income, housing conditions, quality of nutrition, social network development, efficiency and fairness of health care system and equal possibilities within a society[15]. Epidemics of communicable and non-communicable diseases are important indicators of health status. The WHO has characterized obesity, which rose to pandemic proportions, as the greatest challenge for human health in the 21st century. Obesity is a condition of excessive accumulation of fat tissue due to excessive food and energy intake in comparison to body expenditures. Nutritional status is measured by »body mass index« (BMI) which represents the difference between body weight (BW, in kilograms) and height of a person. BMI values from 25 to 29.9 are regarded as overweight and values above 30 characterize obesity. Both conditions increase the risk for numerous chronic diseases, from Type 2 diabetes, hypertension, obstructive pulmonary

[10] Huff, R., *Human capital*in 2006;
[11] Vranjican, S.: *Politička ekonomija.* in 2007; p. 239;
[12]Samuelson, P. A., Nordhaus, W. D.: *Ekonomija*, in 2011; pp. 255-256;
[13]Vranjican, S.: *Politička ekonomija.* in 2007; p.105;
[14] Smolić, Š.: *Zdravstveni sustav*, in 2016, p. 472;
[15]Kendall, P.R.W.: *Investing in Prevention: Improving Health and Creating Sustainability*, in 2010, p. 35;

disease, asthma, arthritis, many types of cancer, depression and other, and at the same time decrease quality of life and life expectancy. The risk increases with higher BMI values. Globally, 1.9 billion people or 39% of adults are overweight, including 650 million or 13% of adults who are obese. High average BMI values in children and adolescents is especially worrying[16].

Obese individuals experience not only severe physical consequences, but also face serious psychosocial and economic setbacks. Exposure to social stigmatization and discrimination can cause emotional disorders, lack of self-confidence, anxiety, depression and stress. Obesity directly reduces work and social activities, reduces employability, productivity and social inclusion. Research shows that obese people are 29% more likely to show a loss of life meaning and are 34% more likely to have financial problems than people with normal BMI[17]. It is estimated that obesity is the main cause of death for about four million people a year (7.1% of total number of deceased)[18], and in the United States only around 300 000 deaths a year can be connected to consequences of obesity[19].

Although obesity affects all population groups (regardless of age, sex, social, economic, ethnic and other affiliation), the most represented category among obese are people of lower social, economic and educational status, ethnic minorities and single-parent families.

About 42% higher health expenses for the treatment of an obese individual in comparison to others[20] raise total healthcare expenditure of the society, due to frequent inability to work, lost workdays and increased mortality rates. All of these reduce aggregate productivity and economic growth. Estimates of yearly expenses connected to obesity and co-morbidities in the United States are between 147 and 210 billion dollars, which is between 5 and 10% of the total healthcare expenditure (similar figures can be observed in other developed countries as well). For example, European counties spend around 147 billion dollars per year for the treatment of obesity-related diabetes. Rough estimates of global economic expenses caused by obesity pandemic go as high as 2 trillion dollars, or around 2.8% of global gross domestic product[21].

4. Diffusion of obesity and its influence on human capital status in Eastern Croatia

According to the research conducted by the *European Health Interview Survey – EHIS 2013-2015,* only 38% of the population has increased body weight, while 18% suffer from obesity. *Global status report on noncommunicable disease* for 2014 estimated that 58.47% of population over 18 years of age has increased BW, and 20.4% of them suffered from obesity[22] International research conducted in the 2014, in more than 40 countries and regions across Europe and around the world pointed out that more than a quarter of children in Croatia has high BMI[23.]

According to the results of Croatian Adult Health Survey (CAHS) conducted in 2003, the prevalence of overweight and obesity among Croatian adults was 38.11% and 20.34%, respectively. Overweight was more prevalent among males and obesity among females.

Regional comparison (Eastern, Central, Northern, Mountain, Coastal and the City of Zagreb) showed that men from Northern region weigh the most (71.57% overweight) while in Eastern region 55.91% of male population was overweight. Women from Eastern region come third in respect to overweight (57.80%), after women from Northern (58.25%) and Central region (58.01%). The highest prevalence of obesity prevalence was also found among males in the Northern region (28.62%), significantly higher than in all other region. Obesity rate among males in Eastern region

[16] Toromanović, A.: *Liječenje pretilosti adolescenata*, in 2017, p. 181;
[17] Fox, M.: *America's Obesity Epidemic Hits a New High*, in 2016;
[18]NHS, *Being overweight, not just obese, still carries serious health risk*, in 2017;
[19] Sharma, S.: *Obesity: A Silent Killer*, in 2015;
[20] Frankel, J.: *Mitt Romney Rejects His NaturalVoters*, in 2012;
[21] Dobbs, R., Sawers, C., Thompson, F. et alt.: *Overcoming Obesity: An Initial Economic Analysis*, in 2014, p. 1;
[22] Musić Milanović, S. and Delaš, M.: *Debljina i čimbenici rizika*, in 2017, pp. 168-169;
[23] Musić Milanović, S. and Delaš, M.: *Debljina i čimbenici rizika*, in 2017, pp. 167-168

was 19.34%, the fourth highest rate for men in Croatia. Among women, the highest rates of obesity were found in continental regions, Central (26.24%), Northern (25.59%) and Eastern (23.83%)[24]. Regional divergences clearly indicate significant differences in both dietary and lifestyle habits, and socioeconomic differences between Croatia's regions. Predicted obesity rates for Croatia show that by 2020 around 35% of men and 42% of women will be obesity, and by 2030 about 37% of men and 48% of women[25]. Increase of the average BMI by 1.31 kg/m^2 in women, and 1.41 kg/m^2 in men is shortening life expectancy at birth by one year[26].
According to the CroDiab register for 2016, 284.145 people is diagnosed with diabetes which is an increment of 140.000 persons in the last ten years, and the healthcare costs (including complications) were 4,6 billion HRK (19,9% of the HZZO budget, compared to 11.49% in 2009)[27].
There is only a small number of researches conducted about the actual causes of regional differences in the prevalence of overweight and obesity in Croatia. In order to determine the real healthcare status of the population from the aspect of regional differences in Croatia more studies are prompted. The influence of devastating rates of obesity on human capital in Croatia's regions needs to consider morbidity from chronic diseases, age and gender standardized mortality rate, life expectancy, frequency and length of sick leaves etc. However, the rising trend of overweight and obesity clearly show that the negative impact on the healthcare status and human capital of Eastern Croatia is becoming more and more evident. With deindustrialization and technological stagnancy, inadequate structure of knowledge and depopulation as some of the most difficult obstacles to the economic and social development of Eastern Croatia, the negative effects of obesity on the preservation and increase of human capital present additional factor of lagging development in regards to other Croatian and European regions.

5. Prevention of obesity as an investment in human capital and development of Eastern Croatia

Restrictions which impose the scarcity of human capital in development of the Eastern Croatia could be significantly reduced in the medium-term period. That can be achieved through increased investments in knowledge and capability of the whole population, technological modernization, applying contemporary concepts of organization and management methods, as well as improved healthcare status of the population.
Investing in preservation and improvement of the health of citizens has high return rates since human capital, productivity (less absences from work due to sickness, increased number of working hours and the work intensity), employment and income are all growing, including life expectancy and the quality of life.
Investing in the health of the population can be made within public healthcare system or outside of it, i.e. business organization, school and family. According to M. Grossman and his model based on the theory of human capital, individuals produce health by wasting their time, but as the individual healthcare protection users they also require health as a source of increased personal usefulness. The benefit is the absence of sickness, but also in the health which as an »investment goods decide the total amount of time for market and non-market activities «[28].
The basic point of healthcare system is to retrieve, preserve and improve physical and mental well-being of the population, and to protect the individual from impoverishment in case of illness[29]. Even

---

[24]Fišter, K., Kolčić, I., Musić Milanović, S., Kern, J.: *The Prevalence of Overweight, Obesity and Central Obesity in Six Regions of Croatia: Results from the Croatian Adulth Health Survey*, in 2009, pp. 26-28;
[25]World Health Organisation – regional office for Europe, *Croatia – Nutrition, Physical Activity and Obesity*, in 2013, p. 2
[26] Musić Milanović, S. and Delaš, M.: *Debljina i čimbenici rizika*, in 2017, p. 165
[27]Šarić, T.: *Novi podaci o troškovima liječenja šećerne bolesti u Hrvatskoj: Čak četiri milijarde kuna godišnje HZZO troši na liječenje komplikacija dijabetesa*, in 2018;
[28]Grossman, M.: *On the Concept of Health Capital and the Demand For Health*, The Journal of Political Economy, 80(2), pp. 223-255, cited in Smolić, Š.: *Zdravstveni sustav*, in 2016, p. 477;
[29] Smolić, Š.: *Zdravstveni sustav*, in 2016, p. 471-472;

though Croatia has a relatively good healthcare system and satisfying indicators of health status of the population regarding the investments in healthcare (continuous growth which nowadays reaches 7.5% of the national income)[30], the stability of financing, organization and effectiveness of managing the material and human resources of the healthcare system that are available should be raised on a higher level. That means reduce the debts of the system and rationalize healthcare expenses, but also increase the equality of citizens in regards to healthcare availability and get closer to EU standards in the sense of treatment outcome (national database is missing). Within healthcare activities strongest emphasis should be on the preventive measures, especially for obesity as a long-lasting and financially demanding disease.

When talking about the functions of healthcare protection, in 2013 94% of the resources for the preventive measures came from the public sector and only 6% from the private one. Measures of healthcare prevention should equally involve all the segments of society, but at the same time »positively discriminate« those parts of the population which are most often suffering from obesity: persons with low socio-economic and education status, unemployed, families with only one parent, elder persons, members of ethnic minorities etc. Special measures of prevention should be focused on early childhood and adolescent period, and connected with the measures of family (»quality parenthood«) and social policy directed towards reducing the poverty between children and youth. Treatment of developed forms of obesity in these social groups significantly increases healthcare and social expenses.

Effective investment in preserving and improving health of the population assumes a sufficient amount of relevant information and knowledge about the health risk factors, especially about obesity as a chronic disease and a notable generator of healthcare costs. Knowledge is important since investments in healthcare services, infrastructure and people, medical equipment and medical researches require significant, but budget-wise limited expenses. Measures of public healthcare enlightenment, i.e. programs dedicated to understanding and accepting healthy habits regarding quality nutrition, programs of physical activity in schools, companies, institutions and public places, the promotion of active ways of traveling on the relation house-company/school and advisory activities in the sense of healthy way of life, are all increasing the level of information, knowledge and awareness of people about obesity and the necessity of supervision when it comes to our own body. Better awareness and expanded knowledge have impact on the development of consciousness about the »responsible behavior within healthcare, according to one's own health and the healthcare system«[31]. The economist M. Grossman showed that the educated individual is more successful in »producing« his own health, but also that the improved health status enables him additional education and personal progress. Researches have also shown positive connection between higher levels of education and reducing the number of persons with chronic or long-lasting health problems[32]. This information is particularly important for Croatia which, according to Eurostat data for 2013, has a relatively high share of persons within the population which suffer from chronic or long-lasting health problems, reaching up to 31%[33].

Business sector should be more engaged in devising and conducting measures focused on tracking and improving health status of the employees and their permanent healthcare education. Business sector should also be relieved from the part of their financial expenses to encourage them to develop programs such as i.e. nutritive and quality diet of employees and regular physical activity during work.

Prevention of obesity can also be supported by the measures of tax policy, i.e. by additional taxing of producers and salesmen who produce and sell nutritional low-quality food and beverages, or by tax relieving of those producers and salesmen who take care about the health of consumers. Lowering the level of VAT (and prices) on healthy food and beverages helps consumers to get to healthy food and change the structure of their diet more easily.

---

[30] Smolić, Š.: *Zdravstveni sustav*, in 2016, pp. 471, 494;
[31] Smolić, Š.: *Zdravstveni sustav*, in 2016, p. 500;
[32] Smolić, Š.: *Zdravstveni sustav*, in 2016, p. 499;
[33] Smolić, Š.: *Zdravstveni sustav*, in 2016, p. 502.

Within the agri-food policy, the measures of subsidizing and favourable lending to producers of nutritive quality food help in qualitative change of agricultural production and diet of the population. Social policy could also enable easier access to quality food by increasing financial aid to the poorer, and policy of incomes could raise the purchasing power of those with lowest salaries by increasing i.e. minimum wages, and therefore encourage the changes in their dietary habits. Within the cultural policy useful measures of obesity prevention could be focused on the early warning of consumers by means of publications, TV, radio, web pages and useful reports. The contribution of the regulatory policy to obesity prevention includes setting solid nutrition standards and clear labeling of products regarding their nutritional and health quality, ban on fast food sales, chips and sweetened drinks in hospitals and schools, strong restrictions on advertising unhealthy food (especially when children watch TV) etc.
Contribution to prevention may also be provided by measures for spatial planning and construction that would provide more of those green public areas and recreational sites in urban areas. All prevention measures must be consistent, comprehensive, continuous and mutually agreed. The implementation of public policies and measures dedicated to prevention and control of obesity are subjected to continuous monitoring and evaluation of outcomes against the funds invested, in order to avoid unnecessary use of healthcare services, spending material and other resources as well as the increase in opportunistic costs.
The holder of the obesity prevention measures program is the Ministry of Health which is responsible for health policy, planning and assessments, including regulation of standards for health services, education, public health programs, monitoring and control of health status. The proposed measures to prevent obesity and their implementation would undoubtedly lead to an improvement in the healthcare status of working-active and other population, prolonged life expectancy (well-being) and reduced healthcare costs, but also increased human capital and its positive economic and social effects.

6. Conclusion

The development of services, new products and technologies, and the global concept of progress, puts highlight on the role and the importance of creating new human potentials and capital in desirable changes and productivity increase, competitive advantages and income of businesses and economies. With continuous education and professional training, good health of employees and the society in whole is the most important determinant and the base of human capital. In the 21st century, human capital is the most important developing capital of a company and economy, even more important than financial and physical capital.
Health status worsens due to various risk factors, and obesity is the most common and dangerous one because it leads to loss of human potential and capital on the global scale. Obesity reduces work productivity, quality of life and life expectancy, therefore successful management would not only reduce healthcare cost and burden to the society but increase human capital and economic growth. Croatia, especially Eastern Croatia is not exempted from the trend. This is one of the underlying reasons for failing and falling-behind in development in comparison to other regions.
Better health status and increased human production potential can be achieved by increasing the investments of society in the health care system, education and social activities to reduce devastating effects of rising obesity prevalence. The emphasis must be put on prevention. Preventive measures should be carried out within the public health sector, with active enrolment of private health sector and business sector. Individuals and their families should also invest in health protection because of the financial benefits and welfare increase, which requires significant changes in public opinion and system of values.
Financial investments in measures to prevent obesity would quickly pay-off through preservation/improvement of health status of employees, reduction of financial and opportunity costs for health care, increased human capital, productivity, employment and income. Benefits for the society are improved quality of life and life expectancy. The costs of preventive measures

should constantly be compared to the results of measures applied. The effectiveness of investments in these prevention measures mostly depend on the quantity, allocation and the quality of public healthcare services, but also on the effectiveness of economy and administrative institutions in Croatia.

In light of modern economies around the world that embraced human capital as their strength, permanent external and internal education and training of the employees, and their better healthcare status are the most effective ways to create and develop preferable attributes of human capital and production potentials of companies in Eastern Croatia. Even though predictions of obesity trends in Croatia and its regions (especially northern ones) are not optimistic, suggested preventive measures to fight obesity are the most effective solutions for preservation and improvement of health. They are the basis for the establishment of new human capital as the most important lever of faster economic and social development of the eastern part of Croatia.

REFERENCES

Bajruši, R. and Laušić, F. (2018):***Dan kada su rođene županije***, Jutarnji list, no. 7048/2018, pp.34-35

Dobbs, R., Sawers, C., Thompson, F. et alt.(2014): ***Overcoming Obesity: An Initial Economic Analysis***, discussion paper, McKinsey Global Institute, 2014., www.google.hr/search?q=Mckinsey+global+institute+obesity&rlz=1C1GGRV_enHR751HR751&oq=Mckinsey+global+institute+obesity&aqs=chrome..69i57j0l5.21415j0j7&sourceid=chrome&ie=UTF-8, p. 1 (accessed on the June 10, 2017)

Frankel, J. (2012): ***Mitt Romney Rejects His Natural Voters***, https://www.project-syndicate.org/commentary/mitt-romney-rejects-his-natural-voters-by-jeffrey-frankel?barrier=accessreg (accessed on the July 5, 2017)

Fišter, K., Kolčić, I., Musić Milanović, S., Kern, J.(2009): ***The Prevalence of Overweight, Obesity and Central Obesity in Six Regions of Croatia: Results from the Croatian Adulth Health Survey***, Collegium Antropologicum Vol. 33/2009 , Supplement 1, pp. 25-29

Fox, M.: ***America's Obesity Epidemic Hits a New High***, https://www.cnbc.com/2016/06/07/americas-obesity-epidemic-hits-a-new-high.html (accessed on the October 7, 2017)

Galbraith, J.K. (2007): ***Dobro društvo – humani plan***, Algoritam, Zagreb

Goldin, C. (2014): ***Human Capital***, http://scholar.harvard.edu/files/goldin/files/human_capital_handbook_of_cliometrics_0.pdf (accessed on the February 5, 2018)

Huff, R. (2006), ***Human Capital***, https://www.britannica.com/topic/human-capital (accessed on the February 7, 2018)

Kendall, P.R.W.: ***Investing in Prevention: Improving Health and Creating Sustainability***, special report, Office of the Provincial Health Officer, British Columbia, 2010, https://www.health.gov.bc.ca/library/publications/year/2010/Investing_in_prevention_improving_health_and_creating_sustainability.pdf (accessed on July 5, 2017)

Musić Milanović, S. and Delaš, M. (2017): ***Debljina i čimbenici rizika***, in Bekavac-Bešlin, M. et alt., ed.: *Kiruruško liječenje bolesti debljine*, Zagrebački institut za kulturu zdravlja, in Zagreb-Tuzla, pp. 163-172

NHS – National Health Service England (2017), ***Being overweight, not just obese, still carries serious health risk***, www.nhs.uk//news/2017/06June/poages/being-overweight-not-just-obese-still-carries-serious-health-risk.aspx (accessed on the July 10, 2017)

Pettinger, T. (2017): ***Human capital definition and importance***, https://www.economicshelp.org/blog/26076/economics/human-capital-definition-and-importance/ (accessed on the November 5, 2017)

Samuelson, P. A., Nordhaus, W. D. (2011): ***Ekonomija***, MATE, Zagreb

Sharma, Sharad, *Obesity:* ***A Silent Killer***, www.dnaindia.com/health/report-obesity-a-silent-killer-2138682 (accessed on July 12, 2017)

Smolić, Š. (2016): ***Zdravstveni sustav***, in Obadić, A. and Tica J., ed.: Gospodarstvo Hrvatske, Zagreb: Ekonomski fakultet u Zagrebu, Zagreb, pp. 471-508

Šarić, T.: ***Novi podaci o troškovima liječenja šećerne bolesti u Hrvatskoj: Čak četiri milijarde kuna godišnje HZZO troši na liječenje komplikacija dijabetesa***, 2018, Jutarni list, https://www.jutarnji.hr/specijal/buducnost-zdravstva/novi-podaci-o-troskovima-lijecenja-secerne-bolesti-u-hrvatskoj-cak-cetiri-milijarde-kuna-godisnje-hzzo-trosi-na-lijecenje-komplikacija-dijabetesa/7095687/ (accessed on the March 10, 2018)

Toromanović, A. (2017): ***Liječenje pretilosti adolescenata***, in Bekavac-Bešlin, M. et alt., ed.: *Kiruruško liječenje bolesti debljine*, Zagrebački institut za kulturu zdravlja, in Zagreb-Tuzla, pp. 181-202

Vranjican, S.(2007): ***Politička ekonomija***, Pravni fakultet u Zagrebu, Zagreb

World Health Organisation – regional office for Europe, ***Croatia – Nutrition, Physical Activity and Obesity***, 2013, http://www.euro.who.int/__data/assets/pdf_file/0003/243291/Croatia-WHO-Country-Profile.pdf?ua=1 (accessed on the February 5, 2018)

Snježana Stanarević Katavić, PhD, postdoctoral research assistant
Department of Information Sciences, Faculty of Humanities and Social Sciences in Osijek
Lorenza Jägera 9, 31000 Osijek
Phone: +385 31 49 4655
Fax: +385 31 21 2514
E-mail address: sstanare@ffos.hr

Darko Lacović, PhD, postdoctoral research assistant
Department of Information Sciences, Faculty of Humanities and Social Sciences in Osijek
Lorenza Jägera 9, 31000 Osijek
Phone: +385 31 49 4689
Fax: +385 31 21 2514
E-mail address: dlacovic@ffos.hr

Gordana Dukić, PhD, **Associate Professor**
Department of Information Sciences, Faculty of Humanities and Social Sciences in Osijek
Lorenza Jägera 9, 31000 Osijek
Phone: +385 31 21 49 4723
Fax: +385 31 21 2514
E-mail address: gdukic@ffos.hr

INFORMATION NEEDS IN THE PROCESS OF STUDY AND CAREER DECISION-MAKING OF HIGHSCHOOL GRADUATES IN OSIJEK

INFORMACIJSKE POTREBE OSJEČKIH MATURANATA PRI DONOŠENJU ODLUKE O IZBORU STUDIJA I BUDUĆOJ KARIJERI

ABSTRACT

Since we live in a time when an academic degree does not guarantee employment, gymnasium graduates need to make a demanding decision on which study to enrol in order to find a suitable job one day. The purpose of this research was to determine the way high school graduates from Osijek decide on the faculty they want to enrol, which criteria they apply when choosing their future occupation, what information they need for decision-making, and which sources they use to gather information about the future study and employment possibilities. The study also sought to establish how well informed they are about the labour market. The research was conducted using an online questionnaire. The sample comprised of high school graduates (n=264)from four Osijekgymnasiums. Data were analysed by descriptive statistics. Results show that high school graduates primarily chose study according to their interests, however, at the same time two thirds of respondents wished they have had more help with analysis of their traits that predispose them for a particular study and profession. Other criteria that quite affect gymnasium graduates study selection are possibility of getting a good job, possibility of advancement and training, ability to contribute to community development, good study conditions and employment opportunities abroad. Decision-making about future study and profession for the greatest number of respondents was based on information they got from their family, friends, faculty/university sites and students studying chosen study. Family members were the most useful source of informationabout employment possibilities as well. Results indicate that Osijek gymnasium graduates are somewhat to very informed about the labour market, however 61,7% of respondents wished they have had more information about the labour market in the process of study decision-making.The results of *this study can help to improve human capital planning and management in order to stimulate development of eastern Croatia.*

Key words: *information needs, high school graduates, study choosing, career decision-making, employment possibilities, labour market.*

SAŽETAK

Budući da živimo u vremenu kada stjecanje akademskog stupnja ne jamči zaposlenje, mlade osobe nakon završetka gimnazije trebaju donijeti zahtjevnu odluku o tome koji će studij upisati kako bi jednoga dana mogle pronaći odgovarajući posao. Svrha ovoga istraživanja bila je utvrditi na koji način osječki maturanti donose odluku o izboru fakulteta, na temelju kojih kriterija odabiru buduće zanimanje, koje su im sve informacije potrebne za donošenje odluke te koje izvore koriste kako bi se informirali o budućem studiju i mogućnostima zapošljavanja. Studija je također nastojala ustanoviti koliko su dobro informirani o tržištu rada. Istraživanje je provedeno pomoću online upitnika na uzorku maturanata četiriju osječkih gimnazija (n=264), a podaci su analizirani metodama deskriptivne statistike. Rezultati pokazuju da su maturanti primarno birali studij prema svojim interesima, međutim dvije trećine ispitanika izjavilo je da bi voljeli da su imali više pomoći pri analizi njihovih osobina koje ih predisponiraju za odabir određenog studija i profesije. Ostali kriteriji koji su utjecali na odabir studijajesu mogućnost dobivanja dobrog posla, mogućnosti napredovanja i usavršavanja, mogućnost doprinosa razvoju zajednice, dobri uvjeti studiranja i mogućnosti zapošljavanja u inozemstvu. Odluka o budućem studiju i zanimanju za najveći broj ispitanika temelji se na informacijama koje su dobili od svoje obitelji, prijatelja, fakulteta i studenata koji studiraju odabrani studij. Članovi uže obitelji bili su najkorisniji izvor informacija o mogućnostima zapošljavanja. Rezultati pokazuju da su osječki maturanti djelomično do uglavnom informirani o tržištu rada, ali 61,7% ispitanika izjavilo je da bi voljeli da su imali više informacija o tržištu rada u procesu donošenja odluke o studiju. Rezultati ove studije mogu pomoći unapređenju planiranja i upravljanja ljudskim kapitalom sa svrhom poticanja razvoja istočne Hrvatske.

Ključne riječi: *informacijske potrebe, maturanti, odabir studija, odlučivanje o karijeri, mogućnosti zapošljavanja, tržište rada.*

1. Introduction

In a fast-changing, globally interconnected and economically challenged world, career decision-making of young people becomes more demanding task than it was ever before.The Croatian Bureau of Statistics data speak of a significant increase of highly educated citizens in Croatia compared to the past decade (Statistički ljetopis Republike Hrvatske, 2017),however unemployment rates for young people aged 25–29 having tertiary education is almost double compared to European Union(EU-28) (16.1% vs. 8,2%) (Eurostat, 2018).Furthermore,discrepancy between the Croatian labour market needs and educational system is a major problem. Although in recent years, we have started to tackle this problem at the level of higher education (e.g. in 2011 for the first time enrolment quotas were made according to the recommendations of the Croatian Employment Service) (Obadić, 2017), our country still has a below average ratio of students in natural sciences studies (4,4% vs. 10,6% EU-28) and biomedicine and health (9,4% vs. 13,1% EU-28), and above average ratio of social sciences students (45,7% vs. 32,2% EU-28) (Agencija za znanost i visoko obrazovanje, 2014, Eurostat, 2017).

Careerdecision-making of young people in Croatia has been investigated on several occasions (Mazalin and Parmač Kovačić, 2015, Tokalić, 2017). The largest studies were conducted by online portal Srednja.hr andinstitution of higher education Algebra in 2013, 2014 and 2015.In 2015, 2000 high school graduates and freshmen participated. Results indicated that the dominant motives for career choosing were personal interest (82%), promising employment in EU (54%),promising employment inside country (49%)and the possibility of having a good salary (49%). More than a half of the respondents (51,8%) indicated that they did not want to enrol natural, technical or engineering sciences studies because they perceived them as hard to finish, and more than a quarterof first-year students (27%)stated that they would like to change their choice of study (Matiček, 2015), which is a rather alarming number.

Career decision-making literature, among other things, deals with information sources youth use to gather information about future career and criteria they apply when deciding on their future career. Most studies show that personal sources of information have the most significant role in career decision-making among high school students (Julien, 1999, Witko et al., 2005, Bright et al., 2005, Dimaki et al., 2005, Paixao and Gamboa, 2017). Julien (1999) showed that in choosing future career high school students relied for the most part on their parents, brothers, sisters and friends as confidential sources of information. Although this study, being 19 years old, gives a historical perspective on the topic, it highlights universal human tendency to rely on personal sources of information in making everyday life decisions (Savolainen, 2010). Larger quantitative study with 2941 senior high school students in Canada (Witko et al., 2005) showed that the first sources students consulted in career planning were parents, followed by relatives, people who worked in the field of their interest, friends, school counsellors, teachers, and other people they knew and trusted. Authors of this study raised a reasonable question about educating parents for supporting students in their career planning. Dimaki et al. (2005) found that Greek students discussed their career preferences mainly with their parents, friends and peers. Factors that attracted students to certain professions were their personal interests, high income, and higher social status of the profession. Almost half of the students did not choose a profession in relation to employment prospects, although unemployment, long working hours and social prejudices rejected them from choosing certain professions. Around half of the students pointed out that the main characteristic of a future job that they preferred was freedom of personal expression and job satisfaction (53%), while high financial rewards (34%) and social status (13%) were indicated to a less degree.

Since most of the studies were done before The Great Recession of 2008 during which employability became a “hot topic”, existing studies did not specificallycover information seeking in the context of employability and labour market knowledge. Therefore, in this study we want to find out which criteria high school graduates from Osijek consider when choosing a study, which information they need and which sources they use to gather information about the future study, with a special emphasis on information sources about employment possibilities, and knowledge about the labour market.

2. Research aims, instrument and methods

The research aimed to investigate which criteria high school graduates consider when choosing a study, which information they need and which sources they use to gather information about the future study and employment possibilities, and how well informed they are about the labour market.In order to obtain the required data, a research instrument was designed. It contained the socio-demographic questions, followed by those on information about studies respondents chose, and sources of such information as well as criteria for making decision on choosing study. The perceptions of the high school graduates were measured on the five-point Likert scale, with 1 being the lowest rating and 5 being the highest. The survey was conducted from February 23, 2018 till March 8, 2018. The data were collected by means of an anonymous questionnaire via online survey and analysed by descriptive statistics methods.

3. Sample

The sample comprised 264 high school graduates from four Osijek gymnasiums: 96 (36,4%) respondents were from *I. gimnazija Osijek* (*Opća gimnazija*), 58 (22,0%) from *II. gimnazija Osijek* (*Jezična gimnazija*), 85 (32,2%) from *III. gimnazija Osijek* (*Prirodoslovno-matematička gimnazija*) and 25 (9,5%) from *Isusovačka klasična gimnazija s pravom javnosti*. Almost two thirds of respondents (62,1%) were female.

Respondents were divided into four groups according to their success during the first three years of high school. The majority were students (101 i.e. 38,3%) with an average grade between 4,00 and 4,49. 95 respondents (36%) had an average grade between 3,50 and 3,99, while 51 students (19,3%) obtained an average grade ranging from 4,50 to 5,00. Only 17 (6,4%) respondents had an average grade between 3,00 and 3,49. The mean grade of all respondents was 4,08 with a standard deviation of 0,43. The lowest grade was 3 and the highest was 5. The most frequent grade was 4,00, while the median was 4,02.

Out of 264 surveyed high school graduates, there were 5 students (1,9%) who did not decide what to study. In the sample, 151 respondents stated that they want to study in Osijek (57,2%), 79 in Zagreb (29,9%), and 28 (10,6%) somewhere else in Croatia. Among them, there were 8 respondents who also signed up to study abroad in the following countries: Canada, Denmark, Netherland and Serbia. One of respondents (0,4%) chose to study in the USA only.

With respect to the scientific area of the chosen study, the respondents were classified in nine categories. As previously mentioned, 5 students (1,9%) did not decide what to study. The largest group consists of 78 students (29,5%) whose first choice was a social science study. The most popular choices in this group were Psychology (n=17), Economy (n=15), Logopaedics (n=10) and Social work (n=10). Out of all respondents, 65 intend to study biomedicine and health care (24,6%), where Medicine (n=32) and Physiotherapy (n=12) are favourite studies. Technical studies were chosen by 52 students (19,7%). Most of them would like to study electrical engineering or computing (n=30). There were 26 students (9,8%) who chose natural sciences, mostly in the field of Mathematics (n=10). Humanistic study was the first choice of 20 respondents (7,6%) while interdisciplinary study was the first choice of 12 respondents (4,5%). Only a few students chose a study in other scientific area: 4 in biotechnical sciences (1,5%) and 2 in arts (0,8%).

4. Results

Respondents were asked to rate the extent to which different criteria for choosing a study affected their decision-making. The responses were measured on a five-point Likert scale (1 – Not at all influential, 2 – Slightly influential, 3 – Somewhat influential, 4 – Very influential, 5 – Extremely influential). Table 1 contains descriptive statistics for the analysed variables.

The results indicate that students primarily choose what to study according to their interests. Only for this variable both the median and mode were 5 and the mean was greater than 4. Other criteria that quite affect gymnasium graduates study selection are possibility of getting a good job, possibility of advancement and training, ability to contribute to community development, good study conditions, employment opportunities abroad and being well informed about the study. For all these variables means were between 3,01 and 3,66, while median and mode values were between 3 and 5. Factors that weakly to moderately affect students' choice of study were: reputation of the study, possibility of studying in hometown, image of the profession, financial possibilities and a desire to study in another city i.e. to leave their parents' home. The means for these items were between 2,38 and 2,77, with median and mode values between 1 and 3. The factors with the lowest impact on respondents' decision-making were the low enrolment requirements, expectation that the study is not difficult, parents' pressure and influence of friends i.e. desire to study with them. For these four variables means were less than 2, and the median and mode were 1.

Table 1 *Descriptive statistics referring to the criteria for choosing a study*

Decision-making criteria for choosing a study	**Mean**	**Median**	**Mode**	**Standard deviation**
Compatibility with my interests	4,22	5,00	5,00	1,03
Pressure of parents	1,53	1,00	1,00	0,87
Possibility of studying in hometown	2,70	3,00	1,00	1,47
Financial possibilities	2,58	2,00	1,00	1,40
Desire to study in another city	2,38	2,00	1,00	1,45
My friends go to the same study/faculty	1,36	1,00	1,00	0,77
Reputation of faculty and study	2,77	3,00	3,00	1,33
Good study conditions	3,32	3,00	3,00	1,21
Being well informed about the study	3,01	3,00	3,00	1,29
Possibility of getting a good job	3,66	4,00	5,00	1,31
Possibility of advancement and training	3,61	4,00	5,00	1,28
Employment opportunities abroad	3,24	3,00	5,00	1,45
Ability to contribute to community development	3,52	4,00	5,00	1,31
Image of the profession in society	2,65	3,00	3,00	1,31
Low enrolment requirements	1,95	1,00	1,00	1,19
The study is not difficult	1,69	1,00	1,00	1,03

Source: Authors

In the survey, respondents were also asked to indicate sources of information concerning study costs (study fee, costs of buying books and other studying material, renting a flat etc.), financing the study (scholarship, studying with work etc.), information about the study (courses, professors, extracurricular activities etc.), and employment possibilities and opportunities after graduation. The frequencies and percentages of participants' responses are presented in Table 2.

The vast majority of respondents reported that they had used faculty/university websites to seek information for decision-making about future study and profession. Only 13,6% of surveyed gymnasium graduates stated that faculty/university websites were not their source of information. The next most common sources were friends and respondents' parents, brothers or sisters. The least popular sources were faculty professors (75% of respondents did not ask them for information), school pedagogue or psychologist and professional orientation service.

Respondents mostly contacted their parents, brothers or sisters (52,7%), friends (36,4%) and faculty/university websites (32,6%) to get information about study costs. The same sources were also most often used by students to find information about financing the study, with 38,3%, 31,4% and 28,4% respectively. Concerning information about the study, 72,7% of respondents stated that they were looking for these information on faculty/university websites, 53,8% of them asked their friends, 43,2% of surveyed graduates contacted students who already study, while 42,1% of participants searched the website "Become a student". Information about employment possibilities were most frequently obtained from parents, brothers and sisters (50,4%), friends (43,9%), students who already study at the desired faculty (33,3%) and from faculty/university websites (32,6%).

Table 2 *Information sources concerning various aspects of studying*

Information source	Study costs		Financing the study		Information about the study		Employment possibilities		Not my information source	
	n	%	n	%	n	%	n	%	n	%
Parents/brothers/sisters	139	52,7	101	38,3	57	21,6	133	50,4	53	20,1
Extended family	57	21,6	45	17,1	45	17,1	80	30,3	118	44,7
Friends	96	36,4	83	31,4	142	53,8	116	43,9	39	14,8
Faculty/university websites	86	32,6	75	28,4	192	72,7	86	32,6	36	13,6
Faculty representatives visit	33	12,5	38	14,4	65	24,6	43	16,3	161	61,0
University festival	30	11,4	26	9,9	51	19,3	26	9,9	184	69,7
Website "Become a student"	46	17,4	28	10,6	111	42,1	33	12,5	112	42,4
Social networks/forums	53	20,1	50	18,9	83	31,4	73	27,7	111	42,1
Media (newspapers, TV, radio)	39	14,8	36	13,6	49	18,6	76	28,8	127	48,1
Faculty promotional material	37	14,0	36	13,6	73	27,7	44	16,7	146	55,3
Professional orientation service	22	8,3	23	8,7	38	14,4	35	13,3	191	72,4
Students who already study	71	26,9	60	22,7	114	43,2	88	33,3	86	32,6
Faculty professors	24	9,1	18	6,8	39	14,8	23	8,7	198	75,0
High school professors	27	10,2	22	8,3	66	25,0	55	20,8	148	56,1
School pedagogue or psychologist	30	11,4	17	6,4	30	11,4	31	11,7	195	73,9
Employed in the profession	39	14,8	33	12,5	57	21,6	82	31,1	132	50,0

Source: Authors

Furthermore, respondents were asked to rate on a five-point Likert scale (1 – Not at all useful, 2 – Slightly useful, 3 – Somewhat useful, 4 – Very useful, 5 – Extremely useful) how much a particular source was useful in getting information about employment possibilities after finishing the study. Table 3 contains summary statistics for each information source.

Table 3 *Descriptive statistics referring to information sources for employment possibilities*

Information source	Mean	Median	Mode	Standard deviation
Parents/brothers/sisters	3,53	4,00	5,00	1,32
Extended family	2,50	2,00	1,00	1,39
Friends	3,28	3,00	3,00	1,25
Faculty/university websites	3,03	3,00	3,00	1,41
Faculty representatives visit	2,16	2,00	1,00	1,25
University festival	1,99	1,00	1,00	1,29
Website "Become a student"	1,75	1,00	1,00	1,15
Social networks/forums	2,32	2,00	1,00	1,29
Media (newspapers, TV, radio)	2,59	3,00	1,00	1,35
Faculty promotional material	2,45	2,00	1,00	1,34
Professional orientation service	1,72	1,00	1,00	1,12
Students who already study	2,79	3,00	1,00	1,51
Faculty professors	1,69	1,00	1,00	1,10
High school professors	2,07	2,00	1,00	1,23
School pedagogue or psychologist	1,70	1,00	1,00	1,12
Employed in the profession	2,56	2,00	1,00	1,51

Source: Authors

According to respondents, the most useful source of information about employment possibilities after finishing the study were family members (parents, brothers and sisters). The highest mean (3,53), median (4,00) and mode (5,00)were found for this item. Quite helpful sources of information about employment possibilities were also friends and faculty/university websites. On the contrary, faculty professors, school pedagogue or psychologist, professional orientation service, website "Become a student" and university festival were rated as the least useful. The means for these variables were less than 2, while median and mode were 1.

Besides the fact that high school graduates mostly intend to enrol the study programs they are interested in, it is also important for them to find a suitable job in the future. Taking this into account, respondents were asked to rate on a five-point Likert scale (1 – Not at all informed, 2 – Slightly informed, 3 – Somewhat informed, 4 – Very informed, 5 – Completely informed) how much they know about the Croatian labour market. Corresponding descriptive statistics are given in Table 4.

***Table 4** Descriptive statistics referring to knowledge about the Croatian labour market*

Item	Mean	Median	Mode	Standard deviation
Deficit professions	3,55	4,00	4,00	1,02
Professions that are not demanded	3,61	4,00	4,00	1,00
Unemployment rate	3,98	4,00	4,00	0,86
Number of highly educated unemployed persons	3,10	3,00	3,00	1,08
Average salary in Croatia	3,76	4,00	4,00	1,05
High-paid professions	4,00	4,00	4,00	0,98
Low-paid professions	3,81	4,00	4,00	1,03
Differences in wages in various parts of Croatia	2,86	3,00	3,00	1,13

Source: Authors

Results suggest that gymnasium graduates are best informed about high-paid professions. All three measures of central tendency (mean, median and mode) for this item were 4,00. Almost identical values are calculated for the variable representing respondents' knowledge about unemployment rate. According to results, surveyed high school graduates know least about differences in wages in various parts of Croatia (mean=2,86, median=3, mode=3) and the number of highly educated unemployed persons (mean=3,1, median=3, mode=3).

At the end of the questionnaire, there were items referring to topics and information that high school graduates wished they had more information about when deciding which study to choose. Table 5 shows the frequencies of respondents' answers.

***Table 5** Additional topics and information*

Additional topics and information	n	%
Traits which predispose me to choose a particular study/profession	181	68,6
Labour market analysis and forecasting for the next five years	163	61,7
Comparison of similar studies at different universities	144	54,5
Weaknesses and opportunities of different study programs	136	51,5
Advantages and disadvantages of studying abroad	104	39,4
Advantages and disadvantages of studying in hometown	130	49,2
Advantages and disadvantages of different cities and regions in terms of studying	124	47,0

Source: Authors

According to frequency analysis, respondents would like to have more information about the traits that predispose them for a particular study and profession. More than 68% of participants agreed that they wished they have had moreof this information in decision-making process. Fewer respondents (61,7%) agreed that they wished they have had more information about the labour market, including forecasts for the next five years.

5. Concluding discussion

With this study we wanted to find outwhich criteria high school graduates consider when choosing a study, which information they need and which sources they use to gather information about the future study, with a special emphasis on information sources about employment possibilities, and knowledge about the labour market.

Our study shows that social sciences are the first choice of study for Osijek highschool graduates who participated in the survey. However, its ratio is bellow both Croatian and EU ratio of students studying in this area (29,5% vs. 45,7% CRO and 32,2% EU-28).Biomedicine and health care, on the other hand, is above the Croatian and EU ratio (24,6% vs. 9,4% CRO and 13,1% EU) and natural sciences are above Croatian and in line with EU ratio(9,8% vs. 4,4% CRO and 10,6% EU). It is necessary to take into account that our respondents belong to the group of gymnasium students. Theresearch alsoconfirms that high school graduates primarily choose study according to their interests, however, at the same timetwo thirds of respondents wished they had more help with analysis of their traits that predispose them for a particular study and profession. Other criteria that quite affect gymnasium graduates study selection are possibility of getting a good job, possibility of advancement and training, ability to contribute to community development, good study conditions and employment opportunities abroad. These results indicate that these topics should be paid special attention to when designing information and promotional materials about the studies.

The study results show that decision-making about future study and profession for the greatest number of surveyed high school graduates was based on information they got from their parents/brothers/sisters, friends, faculty/university sites and students already studying chosen study. Great majority of studies show that family (parents especially) have undoubtedly the most important role as sources of information in career decision-making (Julien, 1999, Witko et al., 2005, Bright et al., 2005, Dimaki et al., 2005) confirming already raised question (Witko, K. et al., 2005)about formalising support forparents for supporting students in their career planning process.

Since our special interest were information sources about employment possibilities, and knowledge about the labour market, we wanted to know how useful different sources of information about employment possibilities were. Once again, parents/brothers and sisters werethe most useful source of information, and the only information source that the greatest number of respondents indicated being extremely useful. Friends and faculty/university websites were somewhat useful for the majority of respondents. Regarding labour market knowledge, results indicate that Osijek gymnasium graduates are somewhat to very informed about it, however 61,7% of respondents agreed that they wished they have had more information about the labour market in the process of study decision-making.It is particularly interesting that, besides differences in wages in various parts of Croatia, the number of highly educated unemployed persons is the topic majority of respondents are only somewhat informed about.

This study highlights information that high-school graduates find especially valuable when choosing a study, and areas of needed interventions to help students reach the optimal decision regarding their study and a future career.

REFERENCES

Agencija za znanost i visokoobrazovanje (2018): ***Broj studenata po područjima od akademske godine 2008./09. do 2013./14***,https://www.azvo.hr/hr/visoko-obrazovanje/statistike (accessed 29 March 2018)

Bright, J. E. H. et al. (2005): ***The Role of Social Context and Serendipitous Events in Career Decision Making*, International Journal for Educational and Vocational Guidance*,* Vol. 5, No. 1, pp. 19-36.

Dimaki, K. et al. (2005): ***Educational and Occupational Preferences of High School Students in Greece*,** Education + Training, Vol. 47, No. 6, pp. 432-446.

Državni zavod za statistiku (2017): ***Statistički ljetopis Republike Hrvatske***, Zagreb.

Eurostat (2017): ***Tertiary Education Statistics***, http://ec.europa.eu/eurostat/statistics-explained/index.php/Tertiary_education_statistics (accessed 29 March 2018)

Eurostat (2018): ***Youth Employment by Sex, Age and Educational Attainment***, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=yth_empl_010&lang=en (accessed 29 March 2018)

Julien, H. (1999): ***Barriers to Adolescents' Information Seeking for Career Decision Making***, Journal of the American Society for Information Science, Vol. 50, No. 1, pp. 38–48.

Matiček, D. (2015): ***Istraživanje srednja.hr: Profesori slabo utječu na odabir profesije,*** https://www.srednja.hr/novosti/hrvatska/istrazivanje-srednja-hr-profesori-slabo-utjecu-na-odabir-profesije-2/ (accessed 29 March 2018)

Mazalin, K., Parmač Kovačić, M. (2015): ***Odrednice percipirane zapošljivosti studenata*,** Društvena istraživanja, Vol. 24. No. 4, pp. 509-529.

Obadić, A. (2017): ***Nezaposlenost mladih i usklađenost obrazovnog sustava s potrebama tržišta rada,*** Ekonomska misao i praksa, No.1, pp. 129-150.

Paixao, O., Gamboa, V. (2017): ***Motivational Profiles and Career Decision Making of High School Students,*** The Career Development Quarterly, Vol. 65, No. 3, pp. 207-221.

Savolainen, R. (2010): ***Everyday Life Information Seeking***, in Encyclopedia of library and information sciences, Taylor & Francis, pp. 1780-1789.

Tokalić, R. (2017): ***Načini donošenja odluka o karijeri kod srednjoškolaca: diplomski rad*,** Sveučilište u Zagrebu, Hrvatski studiji, Zagreb.

Witko, K. et al. (2005): ***Senior High School Career Planning: What Students Want*,** Journal of Educational Enquiry, Vol. 6, No. 1, pp. 34-49.

Milan Stanić, Ph. D.
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: 091/1301-962
E-mail address: milan.stanic@vusb.hr

Ivona Blažević, Ph. D. Student
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: 095/5052-848
E-mail address: ivona.blazevic@vusb.hr

Marina Stanić Šulentić, Ph. D. Student
Agencija Stanić
Matije Gupca 28, 35000 Slavonski Brod
Telefon: 091/7285-881
E-mail address: marina.stani0@gmail.com

THE IMPACT OF GLOBAL EDUCATION ON THE SLAVIONIA REGION

UTJECAJ GLOBALNOG OBRAZOVANJA NA REGIJU SLAVONIJU

ABSTRACT

Globalization does not only apply to mutual interaction and facilitating the exchange between countries. It involves merging global value chains and providing products, services and technologies, which countries could not provide based only on their own resources. It is about creating the conditions for a balanced partnership and development in all countries. In this paper an analysis will be carried out from the perspective of the Slavonia region, in parallel with the countries from the European neighborhood. The greatest impact on Croatian education is mobility programs funded by the European Union, which are represented throughout the European Higher Education Area (EHEA). The Bologna Process created the European Higher Education Area. Over 4,000 institutions of higher education in 47 countries have so far accepted the Bologna higher education system. This paper deals with the trends of the development of the global education market and the impact on the regional labor market. The mobility of the population, the economic development of individual countries, the aging of the population and the new economy of services are recognized as the challenges of the global education market. Developed countries are trying to invest as much as possible in education to encourage innovation and research. In addition to investing in their own human resources, these countries are trying to attract as many foreign nationals as possible to study there at affordable educational programs, scholarships, etc. One of the impacts of globalization on education is facilitating access to information on other education policies and encouraging the competitive spirit in education. Also, the knowledge gap is reduced and knowledge is more accessible, the education costs are reduced because of the tendency toward distance learning. The aim of this paper is to highlight the importance of the global market impact on education and to give an overview of the guidelines for global education in the EU and Croatia. During research of facts and possibilities that currently exist, for the formulation of the research results in this paper, the following research methods are used in a different combination: historical method, the method of analysis and synthesis, classification and description method.

Key words: *global education, lifelong learning, cost-effectiveness analysis, labor market, Slavonia.*

SAŽETAK

Globalizacija se ne odnosi samo na međusobne interakcije i olakšavanje razmjene između zemalja. Ona uključuje spajanje globalnih vrijednosnih lanaca i pružanje proizvoda, usluga i tehnologija koje si zemlje ne bi mogle omogućiti samo na temelju vlastitih resursa. Riječ je o stvaranju uvjeta za uravnoteženo partnerstvo i razvoj u svim zemljama. U radu će se izvršiti analiza iz perspektive regije Slavonije usporedno sa zemaljama iz europskog susjedstva. Najveći utjecaj na hrvatsko obrazovanje imaju programi mobilnosti financirani sredstvima Europske unije, a koji su zastupljeni u cijelom prostoru Europskog prostora za visoko obrazovanje (EHEA). Europski prostor za visoko obrazovanje stvoren je Bolonjskim procesom. Više od 4000 ustanova visokog obrazovanja u 47 država do sada je prihvatilo Bolonjski sustav visokog obrazovanja. U ovom radu proučavaju se trendovi razvoja globalnog tržišta obrazovanja i utjecaji na regionalno tržište rada. Kao izazovi globalnog tržišta obrazovanja prepoznati su mobilnost stanovništva, ekonomski razvitak pojedinih država, starenje stanovništva i nova ekonomija usluga. Razvijene zemlje nastoje ulagati što je više moguće u obrazovanje kako bi potaknuli inovacije i istraživanje. Osim ulaganja u vlastite kadrove, te države nastoje povoljnim obrazovnim programima, stipendijama i sl. privući što je moguće više stranih državljana kako bi kod njih studirali. Jedan od utjecaja globalizacije na obrazovanje je olakšanje pristupa informacijama o drugim obrazovnim politikama i poticanje natjecateljskog duha u obrazovanju. Također, smanjen je procjep u znanju i ono je dostupnije, smanjeni su troškovi obrazovanja jer je tendencija ka učenju na daljinu. Cilj ovog rada je istaknuti važnost utjecaja globalnog tržišta na obrazovanje te dati pregled smjernica za globalno obrazovanje u EU i Hrvatskoj. Pri istraživanju činjenica i mogućnosti koje trenutno postoje; a za formuliranje rezultata istraživanja u ovom radu su u različitoj kombinaciji korištene sljedeće znanstvene metode: povijesna metoda, metoda analize i sinteze, metoda klasifikacije te metoda deskripcije.

Ključne riječi: *globalno obrazovanje, cjeloživotno učenje, analiza isplativosti, tržište rada, Slavonija.*

1. Introduction

The paper is conceived in four parts. In addition to the introduction, the second part defines the notion of the global market, globalization and their impact on education. The third part discusses the structure of population and education as one of the biggest challenges of most developed countries. In the third part, the emphasis is on the cultural aspect of global education, the way in which new cultures fit into the education of a particular culture.

The Slavonia region as a part of the European area has major problems in the outflow of working-age population, according to other EU Member States that are much more developed and more organized, and recently to other non-European countries and do not have this degree of development. Due to the outflow of working-age population, especially the young population, the structure of the population is changing and there is an increasing number of older people who are not part of a working-age group. The population structure in Slavonia as the agricultural region is expected to be very bad in the future. This should be another motive for the accelerated development of global education in Slavonia. Global education should increase the ratio of working-age population towards the older population and enable sustainable growth and development. Global education in Slavonia should allow adaptation of other cultures and customs in the domicile population in the future, which historically often was the case. Multiculturalism is a wealth that fosters all developed countries of the world. Prerequisites for multiculturalism are legal security and global education.

2. Global market and education

The international educational services market opens up the possibilities of different approaches to their provision. During the 20th century, an international exchange was intensified, enabling students to choose a "foster" state in which they would end their education. The foster country is particularly meaningful in terms of incorporating new opportunities for providing services in education, using information and communication technologies (ICTs) and establishing offshore curricula that are essentially a qualitatively different form of advanced integration (Mazzarol, Souter, 2001). The precondition for the development of the international education market is the existence of a global market and global society as such. When it comes to the content of the syntagma global society, then it falls to the type of society that is determined by openness and connectivity to technology, markets and culture. Thus, there are all modern societies in recent decades that (1) the world economy is a framework for the development of their own national economy, (2) the world politics of integrating a framework for the preservation of their own national sovereignty, (3) the world culture of pluralism, a framework for preserving their own national identity (Šundalić, 2012).

2.1. The impact of the global market on education

Conventional definition of globalization implies the process of opening and liberalizing the national financial markets and their merging into the global capital market. Today, more often, this term implies "international integration" of goods, technology, labor and capital, and it is possible to speak about globalization in the broader sense (Dujšin, 1999). Globalization, however, is not the same as the global economy. It is just its superstructure, broader than economic relations and contains many elements of politics, culture and social relations (Staničić, 2000). Globality or world society is a term that means the fact that we have been living in the world for a long time, that there are no closed areas. Globalization, however, is the totality of processes that transnational actors associate and undermine the sovereignty of national states. It brings transnationality, placelessness, global ecological awareness, circulation of global cultural industries, and similar (Šundalić, 2012). Globalization and the global market have led to an increase in the movement of goods and people. The goal of the European Union is reflected in four freedoms: the freedom of movement of services, goods, capital and people. As a by-product of the freedom of movement of people there is the movement of people who are being educated in other states. Europe's integration and globalization in general have led to an increase in cross-border migration. In many countries, a significant proportion of the population does not have the nationality of that country or was born abroad. This brings another dimension to higher education: the involvement of migrants. In the European Higher Education Area providing accessible education for all, migrants should have a share of the student population that is equal to their share in the population (EACEA, 2012). In Europe, the modernization plan and EU 2020 strategy are geared towards increasing participation in higher education with the goal of 40% participation by 2020, which is one of the five main goals. Access, on the other hand, is not only a matter of numbers but also a key feature of the social dimension of higher education and as such it also deals with the social composition of the population in higher education. In a social and economic environment where the skills and competences acquired and advanced through higher education become increasingly important, the greater expansion of access to higher education becomes a social imperative with the provision of 'equal access to quality education, as well as equality in relation, including the adaptation of providing education to individual needs' so that 'righteous systems of education and training ... are geared towards providing opportunities, approaches, relationships and outcomes that do not depend on socioeconomic ancestry and other factors that can lead to unfavorable position in education (EACEA, 2014).

Regarding the impact of the global market and the benefits brought by Mazzarol and Souter, they point out that they are divided into social and economic, among which, however, are the most significant economic benefits. The reimbursement of the additional costs invested in the acquisition of the foreign diploma is compensated by growing employment opportunities. Although the measurement of economic benefits is very complex, it is concluded that the total profit is significantly higher than the investment in tuition, accommodation and the cost of living so-overseas students. In addition to the economics, the utility ensemble for foreign students completes the assessment of different social benefits from education abroad. The first is cultural exchange that is very recognizable through the educational process itself. Furthermore, international education tends to shape its "transition" functions (enabling students to move from state to state) or "transformation" (change of attitudes). (Mazzarol, Souter, 2001).

2.2. Economy of services and education

The market economy and the economy of the services we strive require increased competition with which an individual can fight only through continuous learning and progress. The economy of services needs more and more professionals. Ireland is, for example, at the top of the European Union with the majority of the population aged 30-34 who are highly educated in 2010; moreover, Ireland has expressed the desire to increase this percentage by more than 60%. Scandinavian countries, Luxembourg and Cyprus are following Ireland. The targets set by all Member States will not be sufficient to reach the set 40%, according to estimates of the European Commission this amount will not exceed 38%. (Heuse, Zimmer, 2011). The main factors that mark the global market leaders are research and development. That is why the European Union has been paying particular attention to its investment in research and development in its many times mentioned Europe 2020 strategy because there is a clear awareness that Europe is losing its race with the United States and far eastern countries. According to the total amount of GDP spending on R & D index GERD, Europe 27 in the period 2001-2008. year average is GERD 1.92, while Japan has 3.45 South Korea 3.36 and US 2.79% (ESPON ATLAS, 2013). Investments in R & D and education will certainly help (and underdeveloped) land move on the "scale of development" and shift from making simpler products to those more complex ones. Educated workforce more easily accepts someone else's technology and develops their own faster. (Bejaković, 2014). In their research, Nelson and Phelps conclude, according to the models outlined in the 1966 survey, that the rate of return on education is higher as the country is more economically and technologically developed. They also conclude that the more technologically advanced country will have a higher percentage of human capital and, secondly, it will be easier to accept innovations from other countries (Nelson, Phelps, 1966). From the above, it can be concluded that successful countries invest more resources in education so that they can monitor the economic progress imposed on the new economy of services. Global education has a big impact in that because the country that have a shortage of educators can get the same in a way that their citizens get educated abroad and then transmitte this knowledge, skills and experience gained abroad to others. As a best example of this practice, we find student exchange programs within the countries of the common European education area. Erasmus is a project of the European Union for exchange of students and professors founded in 1987. Since 2014. the new Erasmus + project covers all programs of education, training, youth and sports. Erasmus exchange program for students is based on the idea that the students convergence from across Europe will create or stimulate a sense of common European identity among the participants (Mitchel, 2015). The wealth of Erasmus idea is the idea of mutual progress of all participants. Unlike the individual effects of globalization and the creation of a "global village", the European Union is trying to create a new identity that will not erase national identities. The aim is to create a new common identity that will include all European values, but also to highlight all differences between citizens from different member states, regions and so on. EU identity is positive in terms of common desire for better life, learning, traveling, languages, etc. Of course, the danger lies in the loss of an existing identity, and each member state must ensure that it does not happen. Opening borders to students and workers from other Member States must be the goal of creating European values in Croatia.

3. Population structure and education

Most developed countries, especially the EU countries, have a very pronounced aging population problem. On the one hand, the population is encouraged to reproduce and raise new generations, but the modern way of life do not enable most parents to have more children. The aging of the population is one of the reasons for such a sudden development of global education. Namely, developed countries seeks to attract young people from other countries by incentive measures because of higher education and then encourage them to stay in that country to continue to cultivate and create value.

In 2007, the European Commission has already detected a problem affecting the employment system and the social state system. The European Commission's text called Meeting the Common Principles of Flexicurity starts with the assessment that the way in which Europe's citizens live is rapidly changing. They emphasize the four main reasons: European and international economic integration (globalization), the development of new technologies, particularly information and communication; the demographic aging of European countries, together with still relatively low average employment and high long-term unemployment that press the social system; the development of a segmented labor market in which at the same time one workers are overly protected while others have too little protection. (European Commission, 2007).

3.1. Lifelong learning and the global education market

High participation of lifelong education is positively linked to higher education and, in the long run, with low unemployment. Successful forecasting requires a steady and detailed dialogue between the participants in the economy, social partners and other stakeholders in the public and private sector: local authorities, public and private employment services as well as subjects involved in education and lifelong learning. As emphasized in the "New knowledge for new jobs" initiative launched by the Commission, this type of application should help to lengthen the imbalance between supply and demand for certain labor market qualifications so as to help improve professional orientation and to define initial and continuous education that is better tailored to the needs of enterprises, in the context of lifelong learning strategies. (Parnis, 2009).

The EU's introduces in 2000 lifelong education, as one of its most important policies for growth and development, when the Lisbon European Council (23-24 March 2000) concluded that the adoption of the European Framework should define new basic skills needed to acquire lifelong learning as a key measure of the European response to globalization and transition to knowledge-based economies, and emphasized that people are the main force in Europe. (European Parliament, 2006).

Global lifelong learning is mostly affected by international organizations which in the area of its activity include adult education working in the European Union, Council of Europe, UN, UNESCO, OECD and so on. International organizations participate in public management of adult education in various ways. They influence initiatives in organizing, managing and solving procedures in adult education policies. Organizations also have their own infrastructure with staff and a network of different actors (universities, regional institutions, etc.) and they organize conferences, meetings and gather important actors. Through this, a new form of intellectual co-operation is being developed. Incentives for building a network of adult education providers are very important. Organizations influence national discourses by printing materials, books, brochures, distribution of statistical data, etc. Organizations can act with their instruments to which the state agrees by joining an international organization, regardless of whether it is a treaty, a recommendation, a decision, etc. that can end up with some standards. Membership derives a series of obligations that may be in the form of legal norms, moral norms, acceptance of common values or in the form of harmonization with international standards. (Bečić et al., 2009).

4. Global education guidelines

Working group of the Global Education Week Networks 2008 issued the first and then 2010 and the second revised version of the Global Education Guidelines. (MTGO, 2008/2012). The aim of the guidelines is to strengthen the overall work on global education. Guidelines for Global Education are the result of the needs expressed by the people from the North-South center network that are engaged in global education on a daily basis, the Global Education Week Network, with a common tool developed on the basis of the experience gained from that network and its partners to assist educational educators in the understanding and successful application of global education. The work is based on the belief that global education is "holistic education that opens its eyes and minds to the realities of this world and drives them towards the realization of a world in which justice, equality and human rights are fundamental (MTGO 2008/2012). They define global education as an educational viewpoint stemming from the fact that a contemporary man lives and participates in a world that is increasingly globalized day by day. Therefore, it is of utmost importance that education provides access to the various opportunities available to students, but also develops competences for reflection and exchange of views and roles in a global, closely related society and for understanding and discussing the complex relationships of common social, ecological, political and economic questions with a view to implementing a new way of thinking and action. However, global education should not be an approach that we will all accept uncritically, as we already know that there are many perplexities, tensions, doubts and differences in the views of the education process when it comes to global issues. The positive consequences of globalization include the spread of human visions, access to knowledge and products of science and technology, multiculturalism and intercultural views, the opening up of numerous opportunities, personal and social development, opportunities for exchange of ideas and collective action directed at solving common problems.

4.1. Terms of Global Education

The terms of global education are divided into skills, knowledge and values and attitudes. Skills and knowledge are concepts that are frequently found in more or less all EU documents related to education. Global education focuses on social justice and sustainable development with a view to providing equal opportunities for all. Consequently, the areas of content from which global education withdraws the theme brings together key issues such as living conditions at the local level and in other parts of the world, multicultural societies, social, political, economic and cultural contexts, structural and direct violence, interdependence of regions, states and continents, natural resources, information society and the media.

The basic skills that global education is trying to develop are critical thinking and analysis. Global education should help students to approach the problems of an open mind and to critically remind them and be ready to think about their own opinions, taking into account new evidence and rational arguments. They should also be able to identify and fight prejudice, indoctrination and propaganda. From other skills these should be highlighted: change of perspective and multiperspectival approach; recognition of negative stereotypes and prejudices; intercultural communication competences; teamwork and collaboration, empathy, dialogue, creativity, research, decision-making, etc.

As far as valuation is concerned, core values are a tool with which educators clarify the underlying principles of the learning process, guiding them through the choice of content, choice and use of information sources, the design of teaching strategies, learning and evaluation, and the area development of practical intervention for learners. The ultimate purpose of global education is to develop value-based knowledge of world issues and relevant skills with the aim of building attitudes towards responsible global citizenship on an individual and collective level.

4.2. Global Education Methodology

Methodology is defined as science on teaching methods in general and in particular teaching subjects. Methodology as a system of principles and rules that precede practice and serve the analysis of practical action is a systematic study of the relationship between method and theory in all sciences. The methodology of global education must be inextricably linked with world realities. This means that it is primarily based on the circumstances, contexts and needs of our teaching groups, then on the actual circumstances that govern the local society surrounding the mentioned group and the real circumstances in a global society that affect our local reality and their interconnections.

What is particularly emphasized in the guidelines are methodological approaches to global education. The goal is to achieve mutual learning, to increase the interdependence between the efforts of individual participants to learn. This simulates solving problems in any business where in today's developed world more people need interdependency to solve a particular problem, or, a particular product or service to produce. Problem-solving methodologies encourage people to ask questions and answer them, using natural curiosity about certain events or topics. Participants are invited to consider issues that do not have absolute answers and simple solutions that reflect complex life situations from the real world. Likewise, dialogue allows verbal interaction of students with the purpose of encouraging exchange of ideas. It serves as a bridge between people and builds a benign space for the development of thoughts, reflections and suggestions even when they are different or opposed. In global education, the teaching environment must be: democratic and dialogic, participatory, prudent and full of understanding, pleasing and hopeful, stimulating and inspirational.

5. Conclusion

Education and trends in it are impossible to observe without the broad picture of global education. The world is connected; goods, services, capital, and people travel faster than ever. Every education system must therefore respond to the new global economy of services. The service economy requires a large number of highly educated staff. On the one hand, the highly-developed state invests large funds in education in order to stimulate their nationals to research and development and, on the other hand, seek to attract people from other countries. The weakly developed states thus enjoy certain benefits but at the same time suffer. Namely, their nationals who are being educated abroad, if they return to their country, they pass on the acquired knowledge and experience. However, on the other hand, there is a great risk that such a person will remain in the country of education that will offer him better opportunities for employment.

Global education has greatly facilitated the availability of different education policies in all parts of the world. States look at and compare education policies of other, more successful states than themselves, and try to rewrite the good parts of that policy. In the European Union, the crucial influence on the development of global education has the Union's own institutions as well as the financial resources for funding the European Higher Education Area. The most significant project is the Erasmus Exchange Student and Teaching Staff project that enables each member of the European Area of Education to travel and study in another Member State.

Working group of the Global Education Week Networks has issued in 2008 Guidelines for Global Education. The aim of the guidelines is to strengthen the overall work on global education. The guidelines suggest makers of educational policy and educational institutions that in their education devote attention to acquire new knowledge, skills and value attitudes. The focus is on learning about diversity, acceptance, multiculturalism, problem-solving skills development, co-operation, etc.

REFERENCES

Bečić, E., i dr. (2009): ***Međunarodne organizacije u obrazovanju odraslih***, Agencija za obrazovanje odraslih, Zagreb

Bejaković, P. (2004): ***Konkurentnost radne snage u Hrvatskoj: stanje i problemi,*** Institut za javne financije, Zagreb, str. 2

Dujšin, U. (1999): ***Globalizacija, ekonomske integracije i Hrvatska***, Zbornik Pravnog fakulteta u Zagrebu, 49, 2, 179-195

EACEA (2012): ***Europski prostor visokog obrazovanja 2012: Izvješće o provedbi Bolonjskog procesa***, http://eacea.ec.europa.eu/education/eurydice/documents/ thematic_reports/138HR.pdf (accessed 8 March 2018)

EACEA (2014): ***Modernizacija visokog obrazovanja u Europi: Pristup zadržavanje i zapošljivost***, http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/165HR.pdf (accessed 8 March 2018)

ESPON ATLAS (2013): ***Territorial Dimensions of the Europe 2020 Strategy, ESPON 2013 program***, Luxemburg, 2013., http://www.espon.eu/export/sites/default/Documents/ Publications/ATLAS2020/ 194650_ESPON_ATLAS_-_Final_version.pdf (accessed 8 March 2018)

European Commison, ***Towards Common Principles of Flexicurita: More and better jobs through flexibility and security,*** COM (2007)359.

European Commison, ***The EU and The Bologna process***, http://ec.europa.eu/education/library/publi cations/2015/bologna-process-brochure_en.pdf, (accessed 8 March 2018)

Heuse, P., Zimmer, H. (2011): ***The Europe 2020 Strategy***, NBB, Economic Reviev, https://www.nbb.be/doc/ts /publications/economicreview/2011/ecorevii2011_h2.pdf, (accessed 8 March 2018)

Mazzarol, T., Soutar, G., N. (2002): ***The Globam Market For Higher Education***, Cheltenham, UK & Northmanpton, MA, USA, Edward Elgar. 2001, preuzeto iz: Krbec, D., Revija za socijalnu politiku, Vol. 9 No.1

Mitchell, K. (2015): ***Rethinking the „Erasmus Effect" on European Identity***, JCMS 2015, Volume 53, No 2

Mreža Tjedna globalnog obrazovanja, ***Smjernice za globalno obrazovanje***, Lisabon 2008/2012, https://www.cms.hr/system/article_document/doc/273/Smjernice_za _globalno_obrazovanje-HR-web.pdf (accessed 8 March 2018)

Nelson, R., Phelps, E. (1966): ***Investment in Humanst, Tehnological Diffusion and Economic Growth***, Cowles Foundation Paper 236, Reprinted from American Economic Review, 56 (2)

Parnis, M. (2009): ***Fleksibilnost u Europskoj uniji***, izvješće s 5. sastanka EU-Hrvatska: zajednički savjetodavni odbor, www.eesc.europa.eu/resources/docs/flexicurity-eesc-_hr.doc (accessed 8 March 2018)

Preporuka Europskog parlamenta i Savjeta od 18. prosinca 2006. o ključnim kompetencijama za cjeloživotno učenje, L 394/10 EN Official Journal of the European Union 30.12.2006

Staničić, M. (2000): ***Globalno gospodarstvo i globalizacija***, Ekonomski pregled, 51, 9-10, 918-927.

Šundalić, A. (2012): ***Između društva rada i društva znanja***, Media, culture, and public relations, 3, 2012, 2 120-130

UNESCO (2004): ***Globalization with a Human Face - Benefitting All***, Paris

Vlad Walter Veckie, B.Sc.Eng., P.Eng.
PhD Candidate at Faculty of Economics
J. J. Strossmayer University, Osijek
Unified Engineering.com Corp.
171 Niagara Street, Hamilton
Ontario, Canada L8L 6A8
Phone: +1 905 523-1700
E-mail address: walterv@unifiedengineering.com

Anka Mašek Tonković, PhD, **Professor at Faculty of Economics**
J. J. Strossmayer University, Osijek
31000 Osijek, Croatia
Phone: +385 31 224-490
E-mail address: masek.efos@gmail.com

Katica Križanović, PhD student
Josip Juraj Strossmayer University of Osijek
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7, 31000 Osijek
Phone: +385912244073
E-mail address: katica.krizanovic@efos.hr

SOCIO-ECONOMIC CONTRIBUTION OF THIRD-AGE ACTIVE RETIREES

DRUŠTVENO-GOSPODARSKI DOPRINOS AKTIVNIH UMIROVLJENIKA TREĆE DOBI

"If you say the word 'retirement', it almost means the end of being useful. Why would anybody want that? I've retired five times, depending on how you define it. So, the real question becomes, what will you do next?"

"Ako kažete riječi 'odlazak u mirovinu', često se podrazumijeva da prelazimo u doba beskorisnosti. Zašto bi itko želio biti beskoristan? U mirovinu sam otišao već pet puta, ovisno o vlastitoj definiciji. Dakle, stvarno pitanje bi trebalo biti, koja bi mogla biti sljedeća aktivnost."[1]

ABSTRACT

The social-economic contribution of third-age retirees assumes their active involvement in various economic activities according to their abilities, acquired knowledge and experience. In this way, they can directly contribute to the accelerated development of the economy, as they take over those jobs that younger generations cannot get done because of their regular business or advise them in their business in order to achieve greater efficiency and competitiveness.

The size of population grows year to year, with the largest growth trend among older people. According to the United Nations estimates, the share of world population over the age of 60 years from 2000 to 2050 will be doubled from 11% to around 22%. Given this fact, some Scandinavian countries provide a chance for third-age residents to engage in economic activities according to their skills, acquired knowledge and need, without diminishing their old-age pension. In this way,

[1] Chris Hadfield, Canadian astronaut, musician, author, inspirer, speaker at Dundas Rotary Club, 2017

third-age residents have the right to choose, giving them the opportunity to continue their work even after retiring or to start a new business of their choice. The paper deals with aging population and their growth trend, authors dealing with the problem of aging population and examples of good practice.
The paper methodology is based on the processing of statistical data, a qualitative and quantitative methods of analysis and synthesis, hypothesis setting and testing, and using examples from practice and life reality.
The aim of the paper (based on analysis of data and life-practice examples) is to point out the need to introduce stimulating measures to legal regulation in order to motivate third-age retirees to continue to work or to engage within their knowledge and ability in new challenges and business activities.

***Key words**: socio-economic contribution, population aging, knowledge transfer, lifelong education, third-age economy.*

SAŽETAK

Društveno gospodarski doprinos umirovljenika treće životne dobi pretpostavlja njihovo aktivno uključivanje u razne gospodarske aktivnosti prema svojim sposobnostima, stečenom znanju i iskustvu. Na taj način mogu direktno doprinositi ubrzanijem razvoju gospodarstva, jer preuzimaju one poslove koje mlađe generacije zbog svog redovnog posla ne stignu odraditi, ili im pomažu svojim savjetima u poslovanju kako bi postigli veću učinkovitost, a time i konkurentnost.
Brojnost stanovništva iz godine u godinu raste, a među njima naveći tren rasta imaju starije osobe. Prema procjeni Ujeninjenih naroda omjer svjetskog stanovništva starijih od 60 godina od 2000 do 2050 godine će se podvostručiti od 11% na cca 22%. S obzirmna tu činjenicu pojedine skancdinavske zemlje pružaju šansu stanovnicima treće životne dobi uključiti se u godpodarske aktivnostima prema svojim sposobnostima stečenom znanju i potrebi, a da im se ne umanjuje njihova starosnao stečena mirovina. Na taj način stanovnici treće treće životne dobi imaju pravo izbora, što im se pruža šansa nastaviti poslom i nakon odlaska u starosnu mirovinu ili otvoriti novi posao prema svom izboru. U radu se obrađuju podaci o starenju stanovništva i njihovoj tendenciji rasta, autori koji se bave problematikom starenja stanovništva i primjeri dobre prakse.
Metodologija rada zasniva se na obradi statističkih podataka, kvalitetivnoj i kvantitativnoj metodi analize, sinteze, postavljanjem i testiranjem hipoteze, uz korištenje primjera iz prakse i životne stvarnosti.
Cilj rada je (na osnovu analize podataka i primjera iz životne prakse) ukazati na potrebu uvođenja stimulativnih mjera u zakonsku regulativu, kako bi motivirali umirovljenike treće životne dobi, nastavili raditi ili se uključiti u okviru svojih znanja i sposobnosti u nove izazove i poslovne aktivnosti.

***Ključne riječi**: društveno-ekonomski doprinos, starenje stanovništva, prijenos znanja, cjeloživotno obrazovanje, ekonomija treće životne dobi.*

1. Introduction

The third or golden age assumes a retirement age in which people can actively participate in the contribution to socio-economic progress. Today, society is obsessed with speed, appearance of youth, masking natural appearance with various colours and plastic surgeries, to create a sense of attraction and individual success.
Real values, inner strength, experience and abilities that come with maturity are neglected. Third-age retirees have significant potential and values that should be used to help accelerate economic growth.

Engaging in the various activities, according to their abilities, creates a sense of inner satisfaction, and a cognition of usefulness, happiness and gratitude acknowledged by the society as they are needed, observed and acknowledged, as they exist and act in their own environment. The self-esteem and inner satisfaction of every individual are more important than any masks and colours, because they are allowed to work regardless of the existing years which they bear with dignity.
The famous Roman orator Cicero described in his works famous philosophers who in their third age created their greatest works. As an example, he mentioned Plato who wrote his works and achieved the culmination of his career when he was 81 years old. Isocrates created Panathenaicus when he was 94, and his mentor Gorgias of Leontini has lived working actively until he was 107.[2]
At the same time, successful business people like Armand Hammer, one of the world's richest, regardless of his fortune worth billions of dollars, worked and created new jobs in the late years of life. He died working when he was 92.[3]
If it radiates positively, everyone sees their satisfaction and true inner beauty, even though they are of a third age.

2. Methodology

In preparation of this paper methods used were statistics, qualitative and quantitative analysis of scientific and professional literature, and examples from practice, such as:

- Demographics,
- New trends of population aging,
- Regional comparison of population aging,
- Life expectancy by region,
- Comparison of distribution of company founders,
- Working age population of the Republic of Croatia,
- Life examples from history and life reality;

This paper, based on available data, analyses carried out, examples of good practice and conclusions, provides suggestions for adopting legal provisions to stimulate third-age retirees to be included within their abilities in economic activities. This would achieve the accelerated development of the economy of the entire community.

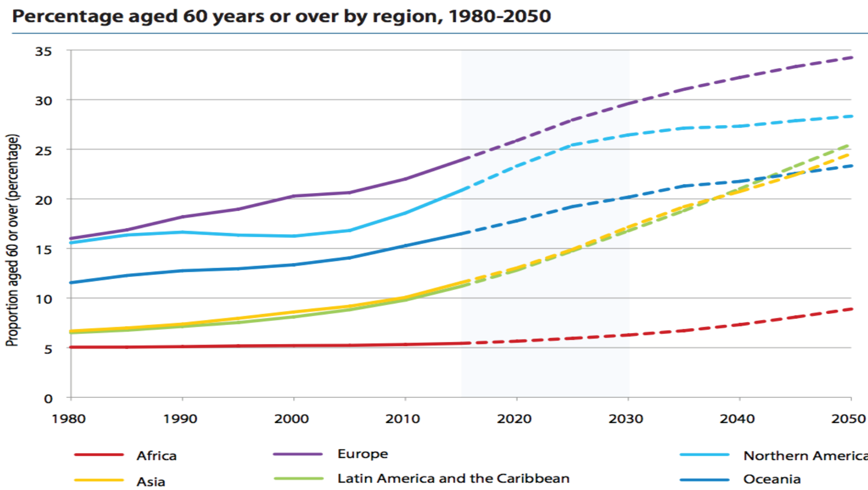
3. The Population of the World Is Getting Older

The relative increase in the elderly population will cause social transformation with significant implications in all sectors of society. The consequences of this social transformation will require harmonization of labour force resources, economic development, housing, transportation and social security.
United Nations surveys and reports confirm the rapid growth of the population we see in Chart 1: "The population of 60 and over will accelerate rapidly. An accelerated growth from 901 million in 2015 is projected to reach 1.4 billion by 2030 and 2.1 billion by 2050. From 2000 to 2050, the proportion of the world's population aged 60 years or over will be doubled from about 11% to 22%. Globally, older population is growing faster than any other age group."
According to the United Nations study and aging report, "practically all countries are facing increasing numbers and share of elderly people in their population." [4] However, in the accentuated

[2] "How to Grow Old" by Marcus Tullius Cicero, Ancient Wisdom for the Second Half of Life translated by Philip Freeman, Princeton University Press, New Jersey 08546, p. 129.
[3] Armand Hammer, May 1, 1987 by Armand Hammer and Neil Lyndon, May 1987.
Dossier: The Secret History of Armand Hammer Paperback – January 1, 1999.
[4] World Population Aging 2015, by Jorge Bravo, Sara Hertog, Yumiko Kamiya and Mun Sim Lai, 2015 http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf

growth trend of the older population, Europe and Asia still stand out. This accentuated trend is particularly noticeable since 2015 onwards.

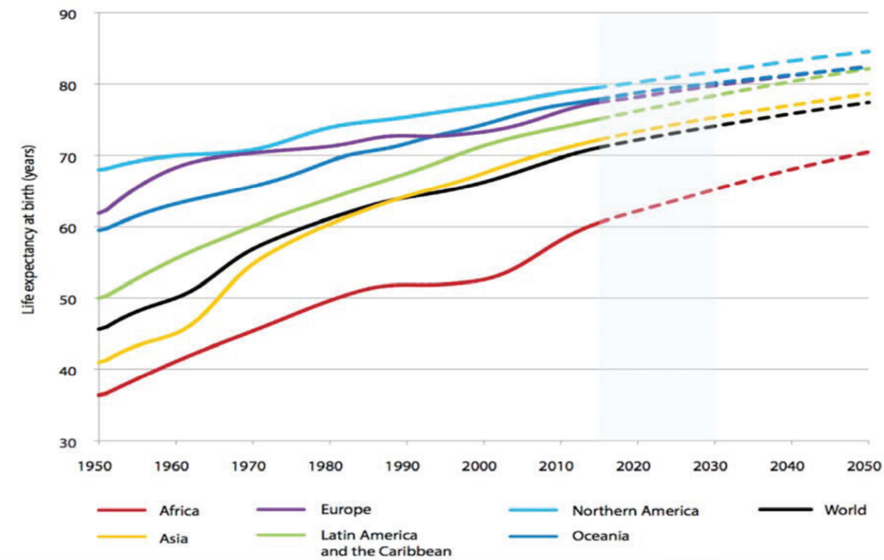
Chart 1 *Regional comparison of the percentage of people aged 60 years or over, 1980-2050*



Source: UN Report on Aging 2015
http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Highlights.pdf

Globally, in 2000, according to an analysis of the number of older people, a faster growth rate is predicted relative to the number of people and other age groups. Older people are becoming more and more a burden to younger generations. Based on this, it can be concluded that the number of third-age population will be a significant work potential, which, when retiring, ceases to be used.

Chart 2 *Life expectancy at birth by region, 1950-2050*



Source: UN Report on Aging
http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Highlights.pdf

An increase in longevity, as shown in Chart 2, is the main reason for increasing the percentage of the older age group who are becoming increasingly numerous in the overall growth of the population in the world. Another critical demographic change is that "the number of people aged 80 years or over will almost fourfold from 2000 to 2050 to 395 million[5]. As a result, older people increase the ratio of addiction (working-age to others ratio). For this reason, retirees of the third age should, through stimulating measures, be allowed to stay in various economic activities of their choice and in accordance with their health and abilities.

4. Third-Age Population of the Republic of Croatia

Third-age population of the Republic of Croatia also shows a growth trend. The working age population of 15 to 64 years in the observed period (Table 1) for three years (2014, 2015 and 2016) decreased by 73,000 while at the same time the number of persons aged 65 for the same period increased by 23,000. The total number of working age population from 15 to 64 years for the observed period decreases from year to year, while the number of older than 65 is increasing. For inactive people aged 15 to 64, the reduction is 11,000 or 2%, while the older population of 65 or over is increased by 25,000 or 3%.

[5] WHO Facts about aging, September 2014, http://www.who.int/ageing/about/facts/en/

***Table 1** Working-age population by activity and age*

'000

	Radno sposobno stanovništvo *Working-age population*			Aktivno stanovništvo *Labour force*			Zaposleni *Persons in employment*			Nezaposleni *Unemployed persons*			Neaktivno stanovništvo (15+) *Inactive population (15+)*			
	2014.	2015.1)	2016.	2014.	2015.1)	2016.	2014.	2015.1)	2016.	2014.	2015.1)	2016.	2014.	2015.1)	2016.	
Ukupno	3 615	3 587	3 566	1 893	1 891	1 830	1 566	1 585	1 590	327	306	240	1 722	1 695	1 735	*Total*
15 – 24	492	483	474	166	160	176	90	92	121	75	68	55	326	323	297	*15 – 24*
25 – 49	1 425	1 402	1 382	1 225	1 211	1 161	1 032	1 031	1 023	193	180	138	200	190	221	*25 – 49*
50 – 64	909	901	897	477	493	469	420	435	422	57	58	47	432	408	428	*50 – 64*
65 i više	789	801	812	(25)	(26)	(23)	(24)	(26)	(23)	.	.	.	764	774	789	*65 and over*
15 – 64	2 826	2 786	2 753	1 868	1 865	1 807	1 542	1 559	1 567	326	306	240	958	921	947	*15 – 64*

Source: CROATIAN BUREAU FOR STATISTICS: Croatia in figures 2017; Source: ttps://www.dzs.hr/default_e.htm

According to statistics, it is evident that the number of retirees or third-age residents is increasing in Croatia, while the working-age population is decreasing. This fact points to a problem that can be solved by stimulating measures, so that third-age retirees re-engage in work processes, continue working (if they have the will and desire), or start new independent businesses or engage in mentoring or advisory societies, not being deprived of their statutory pension.

According to the current Labour Law in the Republic of Croatia[6] men must retire at 65, and women at 60 years of age, by force of law. "There is a flexible pension system in Denmark and other Scandinavian countries, and people can decide on their own when they want to end their active working lives. Through extended working lives, highly qualified experts can continue to actively contribute to society through their knowledge and experience."[7]

At the same time, in everyday practice in Croatia, regarding the regulations, specialists such as doctors and academic scientists when forced to stop working, have no other choice but to join private companies and clinics, where their work is no longer part of state programs, but is available in private clinics or schools to the privileged with high cost of their services.[8]

5. Comparison of Distribution of Business Founders

More recently in the United States (as seen in Chart 3), more and more people of the third age are trying to keep active and prolong their working lives in existing companies, by establishing new companies, or in partnership with younger partners joining new challenges.

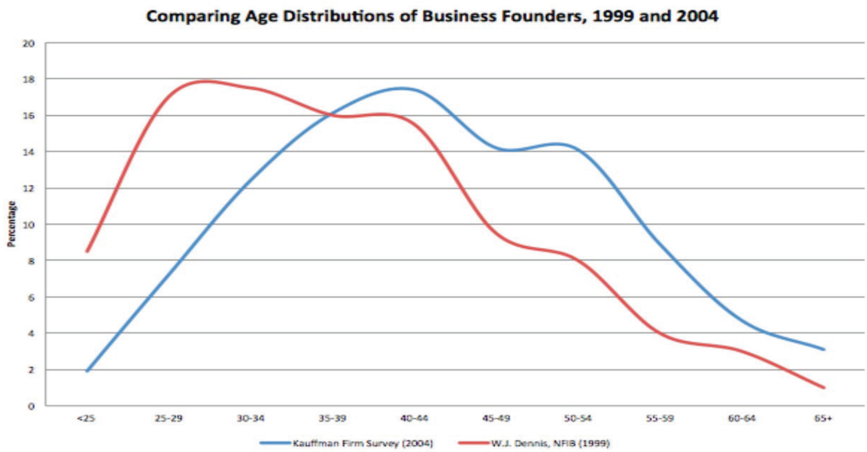
Participation of pensioners in various social sector organizations contributes to supporting the overall good of the common environment. They can influence local political decisions as well as participate in the implementation of administrative policies involving the private and social sector. Demographic changes and increase of older population rate can create opportunities to increase employment, volunteering and connect partners of the third age with young entrepreneurs to combine experience in new technologies in founding and developing new businesses.

[6] Retirement Insurance Law of the Republic of Croatia, article 33;

[7] *https://www.allianz.hr/privatni-korisnici/blog/kada-je-pravo-vrijeme-za-mirovinu/*

[8] The current case (at the end of March): Professor Josip Paladino, M.D., a neurosurgeon at the age of 65, received a retirement plan. At the same time he received offers from other private clinics such as the St. Catherine Clinic and others.

Chart 3 *Comparison of distribution of business founders, 1999 and 2004*



Graph Source: "The grey economy: How third age entrepreneurs are contributing to growth", Ron Botham and Andrew Graves, Kauffman Firm Survey, Nesta, August 2009;

Graph 3 shows the comparisons of the data obtained on the distribution of the business founders in the USA in 1999 and 2004. We highlight significant changes in restarting businesses according to age. Although new companies are increasingly opening up for the same observed periods, the blue line in 2004 shows (which is interesting to note for our work) a significant increase in the founding of new companies by entrepreneurs aged 60 and over. Namely, given the increasing number of third-age people who feel capable, they continue to be active in retirement, by remaining in business, or starting up new businesses and engaging in various economic activities, such as for example Colonel Sanders[9]. When retiring, he sold his company, but he continued to work as a consultant and promoter of the brand (his face is the brand) - a roasted or fried chicken with an aroma, for which the customers literally went crazy.

"At the same time, research on the grey economy suggests that older people participate in business start-ups, especially when the group combines experienced senior citizens and younger entrepreneurs. This trend of new founders in entrepreneurship will increase in the future. The longer-term life cycle of the present populations will encourage more third-age people to realize their own entrepreneurial business."[10]

Throughout the history, in the world as well as in the Republic of Croatia, entrepreneurs who started their business at the age of 65 have achieved relatively surprising success in start-up companies.[11] An example from the practice of a newly established company is "BBoil Organic Oils" Ltd. Croa-

[9] Colonel Harland Sanders came up with secret blend recipe of 11 herbs and spices in early 1940s, borrowed $87 and started fried chicken restaurant. When he was 62 years old, he expanded his restaurant into franchises. It is remarkable how the man started at the age of 62, when most retire and went onto to build a global empire out of fried chicken. He sold his enterprise in 1964, retired at the age of 74, but still stayed involved with Kentucky Fried Chicken, as the company brand spokesperson and mascot until late 1980s.

[10] "The Grey Economy: How third age entrepreneurs are contributing to growth". Ron Botham and Andrew Graves, NESTA, August 2009;

[11] The start-up mentality is not bound by age. by Owen Linderholm, https://smallbusiness.yahoo.com/advisor/older-entrepreneurs--the-startup-mentality-is-not-bound-by-age-000959494.html

tia.[12] Retired managers over 65 years of age have invested their own savings to open a business, but with reduced production capacity due to limited own resources and without state aid and incentives.

7. Conclusion

The socio-economic contribution of third-age retirees implies their active participation in socio-economic development according to their abilities, experience and acquired knowledge. This achieves a double effect. On the one hand, the third-age population gains the sense of usefulness, the desire for further education, is not dissatisfied with retirement, but has the feeling of helping young people in their work, being happy and satisfied, healthier and not making up illnesses. On the other hand, they help young people, because they support them in their dealings, and their faster progress in the pursuit of success.

However, in order to achieve this, it is necessary to stimulate, through government programs and legislative measures, the inclusion of third-age retirees in the continuation of their work and activities according to their knowledge, experience and skills in socio-economic activities and not to take away or diminish their statutory pensions.

According to the current Labour Law of the Republic of Croatia, men must retire at 65, and women at 60 years of age, by force of law. In Denmark and other Scandinavian countries, there is a flexible pension system. Retirees can decide on their own when they want to end their working life. They get their regular retirement pension regardless of whether they have continued to work or have opened their own business. This paper should be used by the Government of the Republic of Croatia in the creation of the development policy of the region of eastern Croatia and the whole of Croatia.

REFERENCES

Books:

“The Grey Economy: How third age entrepreneurs are contributing to growth”, by Ron Botham and Andrew Graves, NESTA Report, August 2009

Marcus Tullius Cicero, “How to Grow Old”, Ancient Wisdom for the Second Half of Life, translated by Philip Freeman, Princeton University Press, New Jersey 08546

”Dossier: The Secret History of Armand Hammer” – January 1999

Lorraine Farrelly, “Designing for the Third Age, Architecture Redefined for a Generation of Active Agers”, Wiley, John & Sons, 2014

”Armand Hammer”, by Armand Hammer and Neil Lyndon, May 1987

James Parkinson, “Demographic Shifts: How an increasing active Third Age could come to shape the future of our cities”, (2014) Working with Older People, Vol. 18, Issue: 2, pp. 67-74

[12] Several retired and almost retired entrepreneurs joined in to start an organic factory for the production of cold pressed organic oils in a small town called Bijelo Brdo near Osijek. The previous work experience of the investors, their tacit knowledge and management skills linked them to invest in a new facility for the processing of cold pressed organic oils and production of energy bars. Their connection with academic advisers and cooperation with the Faculty of Food Technology in Osijek supported product development. Plant production is based on the harvesting of organic seeds and nuts (hazelnuts, nuts, almonds, wool, hemp, sunflower, and rape seed). In order to guarantee the quality of supply of natural materials, they gathered the cluster of organic farm producers and avoided the use of any chemicals, and invested in state-of-the-art cold press processing equipment. Herbal products are offered to visitors to buy on-site. Clean organic cold pressed oils have an exclusive market in the pharmaceutical, cosmetic and food industries worldwide. This is another example of how active third-age leaders contribute to the economy.

Reports:

"World Population Aging" UN 2015 report by Jorge Bravo, Sara Herzog, Yumiko Kamiya, Mun Sim Lai:
http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf
Implementation of the UN Convention on the Republic of Croatia, Disabled and Aged Benefits and Transportation Availability, January 2014
https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-15&chapter=4&lang=_en&clang=_en
The Grey Economy: How third age entrepreneurs are contributing to growth, Ron Botham and Andrew Graves, NESTA Report, August 2009
https://www.nesta.org.uk/sites/default/files/the_grey_economy.pdf
National Social Report 2015 Republic of Croatia, European Commission, June 2015
The Employment Equality Directive and supporting people with psychosocial disabilities in the workplace, by Mark Bell and Lisa Waddington, 2016
https://www.posi.hr/attachments/article/817/Croatia-Parallel%20report-Disability%20Ombudswoman.pdf
WHO Facts about aging, September 2014,
http://www.who.int/ageing/about/facts/en/
University of Illinois at Urbana-Champaign. "Happiness improves health and lengthens life, review finds." Science Daily, March 2011
https://www.sciencedaily.com/releases/2011/03/110301122156.htm
Why Population Matters for Sustainable Future, 135-137 Station Road, London E4 6AG, UK
https://www.populationmatters.org/the-issue/overview/facts
The start-up mentality is not bound by age, by Owen Linderholm,
https://smallbusiness.yahoo.com/advisor/older-entrepreneurs--the-startup-mentality-is-not-bound-by-age-000959494.html

Doc. Josipa Višić, Ph.D.
University of Split/Faculty of Economics
Cvite Fiskovića 5, 21000, Split, Croatia
Phone: 00385 21 430746 Fax: 00385 21 430701
E-mail address: josipa.visic@efst.hr

COUNTRY- SPECIFIC DRIVERS OF LABOUR PRODUCTIVITY

DRŽAVI SPECIFIČNE DETERMINANTE PROIZVODNOSTI RADA

ABSTRACT

Aim of this paper is to determine country-specific drivers of labour productivity in selected 27 European countries in period from 2000 to 2015. Six dynamic panel models have been estimated using Arellano and Bond GMM estimator and all data have been obtained from OECD. Labour productivity, as a dependant variable, is measured by GDP per hour worked where labour input is defined as total hours worked of all persons engaged in production. Obtained results confirmed the expectation that countries with higher rates of GDP growth, likely with favourable economic conditions, will witness an increase in labour productivity. Regarding gross domestic expenditure on R&D, here presented results confirm its positive impact to labour productivity whether these investments have a direct impact as an input of production or an indirect impact via spill over effects. Employment protection makes it more difficult/expensive for employers to adjust the level of employment to current needs of a production, while from employees' point of view employment protection can improve their productivity due to more reassuring working condition. Since it has a positive and significant impact on labour productivity in three out of five models, it seems that employment protection has a stronger impact on employees than on employers. Results of the analysis on the impact of unemployment rate and employment/population ratio are consistent and in accordance to expectations. Namely, unemployment rate has a positive, while employment/population ratio has a negative impact on labour productivity meaning that higher rates of unemployment in a country make workers try harder to keep their job while at the same time employers focus on more productive, high-skilled labour while less productive workers are fired.

Key words: *Labour productivity, Country-specific determinants, European countries.*

SAŽETAK

Cilj ovog rada je odrediti što, promatrajući na razini države, utječe na proizvodnost rada u odabranih 27 europskih država u razdoblju od 2000. do 2015. godine. Procijenjeno je šest dinamičkih panel modela koristeći Arellano i Bond GMM procjenitelj, a svi podaci su preuzeti od OECD-a. Proizvodnost rada kao zavisna varijabla mjerena je preko BDP-a po satu rada gdje je rad definiran kao ukupan broj sati rada uložen od strane svih koji sudjeluju u proizvodnji. Dobiveni rezultati potvrdili su očekivanja kako će u državama s višim stopama rasta BDP-a, a vjerojatno i s povoljnim ekonomskim okruženjem, proizvodnost rada porasti. Promatrajući ukupne domaće izdatke za R&D, ovdje predstavljeni rezultati potvrđuju pozitivan utjecaj na proizvodnost rada bilo kroz izravan učinak kao input u proizvodnji ili kroz neizravan utjecaj učinaka prelijevanja. Viša razina (pravne) zaštićenosti radnog odnosa čini prilagodbu razine zaposlenosti trenutnim potrebama proizvodnje težom/skupljom za poslodavce, dok iz perspektive radnika zaštićenost radnog odnosa može povećati proizvodnost rada zbog ugodnijih i opuštenijih radnih uvjeta. S obzirom da u tri od pet formiranih modela zaštićenost radnog odnosa ima pozitivan i statistički značajan utjecaj na proizvodnost rada, rezultati ukazuju da je njen utjecaj jači kod zaposlenika

nego kod poslodavaca. Rezultati analize utjecaja stope nezaposlenosti te odnosa zaposlenih i populacije su konzistentni i u skladu s očekivanjima. Naime, stopa nezaposlenosti ima pozitivan, dok odnos zaposlenih i populacije ima negativan utjecaj što bi značilo da više stope nezaposlenosti u državi prisiljavaju radnike da ulože više truda kako bi zadržali postojeće radno mjesto dok se istovremeno s druge strane poslodavci usmjeravaju prema produktivnijim, obučenijim radnicima, a manje učinkoviti radnici bivaju otpušteni.

Ključne riječi: *Proizvodnost rada, Odrednice na razini države, Europske zemlje.*

1. Introduction

Productivity provides information about the rate of output produced per unit of input and when it is expressed as units of output produced per unit of a particular input, a single-factor productivity measure is obtained. The most common measure of this type is labour productivity (Syverson, 2011, 329) and it can be measured at firm, industry and country level and can be expressed as a physical measure, a monetary measure or an index. Consequently, labour productivity as a focal point of a research has been explored from different points of view. However, there are still opened questions regarding the respective issue and this paper aims to answer at least some of them.

Author's previous research on labour productivity (Višić, Pervan & Krasić, 2016, 1972) was focused on the impact of recession on labour productivity in EU countries and yielded results raised a question about reasons for significant differences between some of the observed countries regarding trend of labour productivity and number of employees. Namely, there are countries whose productivity hasn't at all been negatively influenced by recession and those that were hit hard during the observed period. However, in majority of countries productivity decreased for a short period and then recovered. Therefore, aim of this paper is to provide possible explanation why the trend of labour productivity is different in selected European countries in period from 2000 to 2015. In other words, empirical analysis will try to find a country-specific drivers of labour productivity in order to provide additional knowledge on labour productivity both to researches and policy makers.

Since productivity can increase in two ways – if efficiency increases so we need less input to produce a unit of an output or by innovations which increase a volume and value of output for every input invested, it is in every country's interest to find a way to produce more with less invested. This, of course, is an important issue when it comes to labour as well as other production inputs. Labour productivity is a complex measure and depends on a large set of determinants, varying from psychological determinants related to an individual to specific economic environment of an observed country. In that sense, this paper acknowledges the importance of numerous different determinants, but is focused on several economic drivers of labour productivity. Determinants were selected following the idea that this research could offer an insight into economic variables beside those that have often been analysed in this context as for instance FDI (Choudhry, 2009, 5; Mitze & Özyur, 2014, 266; Iuga, 2016, 86 etc.).

Given that during the observed period a recession hit the observed area a GDP growth has been included in analysis as one of the explanatory variables due to its importance during prosperity, economic crises and post-recession since it indicates a speed of an economic recovery. Employment/population ratio as well as unemployment rate have also been included in analysis since these measures reflect economic health of a country and a preliminary research showed significant differences between countries. For instance, lowest rate of the employment/population ratio is evident in Greece in 2013 (37.74%) while in the same year this measure had a value of 77.01% for Iceland. This measure is closely related to unemployment rate. However, it must be emphasized that these two measures should not be used as substitutes since for instance a diminishing employment rate does not necessarily lead to an increased unemployment because workers might not try to find another job after they are fired which deletes them from the contingent of employees but does not make them a part of an official unemployment rate.

Both academic (e.g. Bierhanz, 2005, 18; Gust & Marquez, 2004, 42 etc.) and entrepreneurial circles often claim that flexible labour markets, like American, are more successful and suitable for country's economy. This issue is in focus of various studies (e.g. Belot, 2007, 399). Hence, this research aims to investigate is there a significant impact of employment protection on labour productivity in order to provide addition knowledge on the respective topic. In other words, both policy makers and entrepreneurs should be aware of all possible consequences of a particular change in labour market regulation meaning that at the same time lower employment protection may have positive and negative effects depending on what is used as a dependent variable.

Along with employment protection measure, a measure of gross domestic expenditure on R&D variable is also included into the model due to general orientation of this research to decision makers both on a government and a firm level as well. Namely, resources are invested in R&D to increase competitive advantage of a company/country what consequently, among other effects involves a higher labour productivity. Further, a preliminary analysis of determinants showed that values of this measure also vary over the observed period (value for Estonia raised in 2011 more than 9 times when compared to 2000) so it seemed interesting to evaluate the importance of this variable to labour productivity.

Having in mind previously stated, this paper will hopefully add to a better understanding of labour productivity in European countries during the observed 16 years (2000 – 2015) with the intention to provide a valuable insights on significant determinants so decision makers can at least conceive complexity of this issue if not make their policy changes more suitable for achieving a higher productivity. Further, as previously stated there are numerous studies on determinants of labour productivity, however to author's best knowledge this is the only study on determinants of labour productivity where the analysis is performed on a significant number of European countries containing relatively new data and providing insight into variety of independent variables. Of course, this research is subject to criticism due to fact that the analysis could include addition variables and the sample could be broader in order to compare different economic areas. However, these shortcomings serve as a starting point for future work on this topic.

The rest of the paper is organised as follows. Chapter 2 presents data description, empirical methodology and the model, while chapter 3 provides an insight to obtained results. Concluding remarks are presented in the last chapter.

2. Data description, empirical methodology and model

The first part of the chapter deals with empirical methodology and provides more details on analysed determinates while the second part describes changes in labour productivity in observed period. Further, it provides data on descriptive statistics and pair-wise correlation matrix.

2.1. Empirical methodology and model

Labour productivity is, like majority of economic concepts, dynamic in its nature so it is expected that its current behaviour is determined by its past behaviour. Therefore, these dynamic relations are characterised by presence of lagged dependent variable while panel data technique has been used to determine drivers of labour productivity. The general model estimated in this research has a following form:

$$y_{it} = \alpha + \gamma y_{i,t-1} + \sum_{n=1}^{K} \beta_n x_{it} + \varepsilon_{it} \qquad (1)$$

$$\varepsilon_{it} = v_i + u_{it} \qquad (2)$$

where i is denoting a country and t time, γ is a parameter of lagged dependent variable and $\beta_1, \beta_2, ..., \beta_K$ are the parameters of exogenous variables. x_{it} is a matrix of exogenous variables $x_{it1}, x_{it2}, ..., x_{itK}$, while ε_{it} is the disturbance with v_i the unobserved country-specific effect and u_{it} the idiosyncratic error.

In order to get rid of any country specific time-invariant variable, a two-step Arellano and Bond Generalised Method of Moments estimator has been used for model (Arellano & Bond, 1991, 281). Two step estimates have been chosen instead of one step estimator since two step estimator relaxes the assumption of independence and homoscedasticity by using the residuals obtained from the first step estimation to construct a consistent estimate of the variance-covariance matrix. Hence, when the error term ε_{it} is heteroscedastic the two step estimator is more efficient (Cole, Moshirian & Wu, 2008, 998).

Validity of chosen instruments for parameters estimations has been tested by Sargan test which tests over-identification of the restrictions - if a null hypothesis is accepted by Sargan test it means that all chosen instruments are valid, i.e. dynamic panel model is adequately specified (Huang, 2006, 18). The test for the first-order serial correlation (usually labelled m_1) and test for the second-order serial correlation in differenced residuals (usually labelled m_2), derived by Arellano and Bond, have been used as well and it is important to notice that the first-order autocorrelation in the differenced residuals does not imply that the estimates are inconsistent (Arellano & Bond, 1991, 278). However, the second-order autocorrelation would imply that the estimates are inconsistent.

Having in mind various factors that might influence labour productivity it was necessary to select suitable explanatory variables that will capture different aspects of productivity environment in observed countries. After taking into consideration results of similar studies on the respective studies and lack of data for certain variables during the observed period following explanatory variables have been selected for use in this study:

1) GDP growth - Gross domestic product (expenditure approach, annual growth rate, unit – percentage).
2) Gross domestic expenditure on R&D - Gross domestic expenditure on research and development (GERD) is total intramural expenditure on research and development performed on the national territory during a given period. (All fields of science, USD, current PPPs, unit - millions.)
3) Employment protection - Strictness of employment protection – individual and collective dismissals (regular contracts); synthetic indicator of the strictness of regulation on dismissals and the use of temporary contracts. For each year, indicators refer to regulation in force on the 1st of January. Data range from 0 to 6 with higher scores representing stricter regulation, (unit – index).
4) Unemployment rate - Unemployment rate is the number of unemployed people as a percentage of the labour force, where the latter consists of the unemployed plus those in paid or self-employment. Unemployed people are those who report that they are without work, that they are available for work and that they have taken active steps to find work in the last four weeks (unit – percentage).
5) Employment/population ratio - A proportion of an economy's working-age population that is employed (unit – percentage).

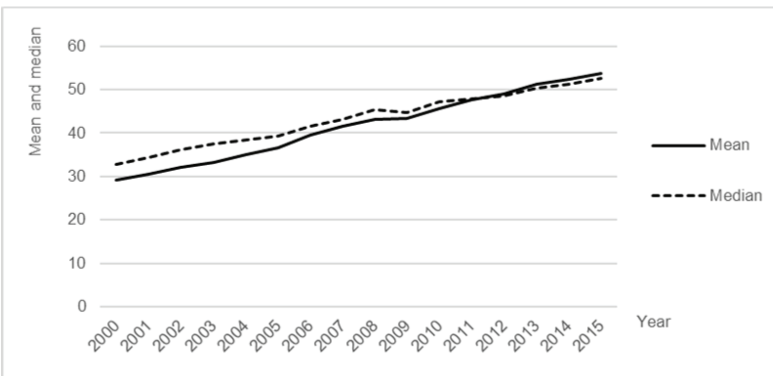
As previously stated, all data are obtained from OECD for a period from year 2000 to 2015 with the exception of data for gross domestic expenditure on R&D where data is available up to 2014. Due to this issue and other missing data over the years for some countries, unbalanced panel models have been formed.

2.2. Data description and trend

In order to obtain a consistent data set all data have been obtained from OECD, hence the analysis is limited to European countries available via respective source. Research includes country level data for following 27 European countries: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom.

Labour productivity is measured by GDP per hour worked where labour input is defined as total hours worked of all persons engaged in production; (current PPPs, unit – US dollar). This form of dependant variable is used instead of labour productivity per person employed as it eliminates differences in the full time/part time composition of the workforce across countries and years and it is consistent with approach in similar studies (e.g. Sharpe, Arsenault & Harrison, 2008, 14; Auzina-Emsina, 2014, 235 etc.).

Figure 1 *Labour productivity in selected European countries in period from 2000 to 2015*



Source: Compiled by the author

Further, prior to insight into empirical results descriptive statistics of the data set is provided in Table 1 presenting values of mean, median, standard deviation, minimum and maximum as well an number of observations. Pair-wise correlations matrix is presented in Table 2 showing a correlation between variables ranging from 0.0020 to -0.6374. However, correlation between variables unemployment rate and employment/population ratio is relatively high, so in order to avoid the problem of multicollinearity these variables have been alternately used in formed panel models.

Table 1 *Descriptive statistics*

	Labour productivity	**GDP growth**	**Gross domestic expenditure on R&D**	**Employment protection**	**Unemployment rate**	**Employment/population ratio**
Mean	41.4990	2.3291	11130.28	2.3572	8.4019	55.6343
Median	39.6584	2.3267	4803.681	2.3333	7.6615	54.7307
Std. Dev.	16.9409	3.7741	17790.38	0.6309	4.4410	8.1541
Minimum	10.3952	-14.8142	81.375	1.0952	1.8050	37.7377
Maximum	95.0948	26.2761	107773.6	4.5833	27.4663	81.3329
Observations	432	432	312	345	432	432

Source: Compiled by the author

***Table 2** Pair-wise correlations matrix*

	Labour productivity	GDP growth	Gross domestic expenditure on R&D	Employment protection	Unemployment rate	Employment /population ratio
Labour productivity	1					
GDP growth	-0.1781	1				
Gross domestic expenditure on R&D	0.2827	-0.1116	1			
Employment protection	-0.2458	-0.1046	-0.0272	1		
Unemployment rate	-0.3466	-0.1080	-0.0633	0.0426	1	
Employment/ population ratio	0.3006	0.0020	-0.0497	-0.1295	-0.6374	1

Source: Compiled by the author

3. Results

In order to establish a relation between labour productivity and selected independent variables six panel models have been estimated with one lag of dependent variable. Each of the six presented models has a satisfactory diagnostic statistics. Namely, Sargan test shows no evidence of over-identifying restrictions and even though the first-order autocorrelation is present (significant p-value of m_1 test), this does not imply that presented estimates are inconsistent. Inconsistency would be implied if the second-order autocorrelation was present. However, this is not a case in these models since null hypothesis of no second-order autocorrelation is accepted (p-values of m_2 test are insignificant).

***Table 3** Dynamic panel models*

Explanatory Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
α	7.72811*** (2.05661)[a]	-3.18296** (1.50130)	10.82201*** (1.66445)	9.74520*** (1.90023)	-3,66507*** (1,09512)	-0,47890 1,010593
Lagged Labour productivity	1.01538*** (0.01099)	1.03618*** (0.01224)	1.00322*** (0.00815)	1.00476*** (0.01264)	1,00527*** (0,01184)	0,99090*** 0,0118854
GDP growth	0.19031*** (0.01667)	0.19573*** (0.01607)	-	0.17287*** (0.01590)	0,19054*** (0,01914)	-
Gross domestic expenditure on R&D	0.00008* (0.00004)	0.00005 (0.00004)	0.00008** (0.00003)	0.00008* (0.00004)	0,00007* (0,00003)	0,00007** 0,0000292
Employment protection	0.92647** (0.43495)	1.04438* (0.55672)	0.01324 (0.42568)	-	1,08318*** (0,42274)	0,15089 0,4122902
Unemployment rate	-	-	-	-	0,16098*** (0,03699)	0,14472*** 0,0282218
Employment/population ratio	-0.18504*** (0.03583)	-	-0.18683*** (0.03105)	-0.16988*** (0.02936)	-	-
Number of observations	228	228	228	244	228	228
Number of groups	24	24	24	24	24	24

Explanatory Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Sargan test (p-value)	0.1105	0.1011	0.1044	0.1043	0,1070	0,1216
m_1 test (p-value)	0.0766*	0.0775*	0.0391**	0.0712*	0,0770*	0,0393**
m_2 test (p-value)	0.3864	0.4185	0.8534	0.4038	0,4265	0,9437

Notes: *, **, *** indicates significance at 10%, 5% and 1% confidence level. a the numbers in the brackets are standard errors.

Source: Compiled by the author

As expected, lagged labour productivity has a positive and significant impact in all models meaning that an increase in labour productivity will enhance future productivity. In other words, effects of factors which improve productivity will be evident at least for a year. GDP plays a pivotal role in almost every economic process, therefore here obtained results showing a positive impact of GDP growth on labour productivity are anticipated. The rationale behind this is that countries with higher rates of GDP growth probably have more favourable conditions to increase labour productivity such as good public infrastructure (Lafontaine & Sivadasan, 2009, 23). Further, it is important to mention that this relationship between GDP and labour productivity can be observed from a different perspective where labour productivity is a driver of GDP growth and this is undoubtedly a logical starting point for analysis. However, mentioned thesis is studied in numerous papers and here it is regarded just as a thought that one should have in mind when dealing with these variables.

R&D as an investment in new knowledge improves the production process and has been the focus of considerable research activity. However, it can be observed as a neoclassical factor of production or as a source of spillovers (Stiroh, 2001, 41). No matter which view is chosen the importance of R&D is unambiguous and here presented results confirm its significance to labour productivity whether these investments have a direct impact as an input of production or an indirect impact via spill over effects whereby numerous studies addressed this topic and microeconomic evidence suggest that this effect exist (Griliches, 1992, 44; Good, Nadiri & Sickles, 1996, 34 etc.). R&D expenditures are closely related to information and communication technology (ICT) hence, some authors do not include them among the significant determinants of per capita productivity (Belorgey, Lecat & Maury 2006, 155; Choudhry, 2009, 5) or they demonstrated that the impact of ICT on productivity is markedly higher than that of R&D expenditures (Greenan, Mairesse & Topiol-Bensaid, 2001, 10).

As with the impact of R&D on labour productivity the influence of employment protection can also be seen from two perspectives. Obvious fact is that an employment protection determines how hard and/or expensive is to hire an employee which consequently has an impact on labour productivity acting on two levels. Considering employers' perspective, employment protection makes it more difficult to adjust level of employment to current needs of a production, especially when wages and/or internal training do not offset these higher costs (Scarpetta & Tressel, 2002, 6), while from employees' point of view employment protection can improve their productivity due to more reassuring working conditions. Other perspective connects employment protection with ICT. In that sense it is interesting to mention work of Gust and Marquez (2004, 38) who are primarily interested in evaluating the importance of a country's IT sector in explaining cross-country differences in productivity growth but also demonstrate that employment protection, due to its costs, is a determinant of ICT expenditures and so indirectly affects per capita productivity. However, their conclusion on the necessity of a more flexible labour market is not general meaning that in some countries labour market reform may be necessary to increase productivity. Here obtained results partially confirm their findings since employment protection has a positive and significant impact in three out of five models containing this determinant. Namely, it seems that employment protection has a stronger impact on employees than on employers, at least in analyzed European countries during the observed period.

Results of the analysis on the impact of unemployment rate and employment/population ratio are consistent and in accordance to expectations. Namely, unemployment rate has a positive, while employment/population ratio has a negative impact on labour productivity. Higher rates of unemployment in a country make workers try harder to keep their job while at the same time employers focus on more productive, high-skilled labour while less productive workers are fired. As unemployment rate diminishes, and the proportion of a country's working-age population rises lower-skilled employees enter the workforce causing lower productivity level which confirms the existence of diminishing returns (Choudhry, 2009, 10). Importance of these two determinants, as well as their described impact on labour productivity is also confirmed by Belorgey, Lecat and Maury (2006, 156), Gust and Marquez (2004, 39) and Choudhry (2009, 11).

4. Concluding remarks

Aim of this paper was to add to prolific theme of labour productivity, specifically observing country-level drivers of this variable. In that sense empirical analysis has been performed on European countries, using OECD data for period from 2000 to 2015. Results of the research indicate that a favorable economic conditions increase level of labour productivity in a country. Namely, obtained results showed that four analyzed independent variables (GDP growth rate, gross domestic expenditure on R&D, employment protection and unemployment rate) have a significant positive impact while employment/population ratio has a negative impact on the dependent variable. In other words, it is necessary to create economic incentives which will then directly, or indirectly increase labour productivity. Regarding GDP growth rate and gross domestic expenditure on R&D it was reasonable to expect previously described influence, hence one could only add that these variables are surely connected to labour productivity on many different levels, even beside those explained in the paper. Results on unemployment rate and employment/population ratio on one side and employment protection on the other side are quite interesting when analyzed together. Although it is often claimed that a more flexible labour market will yield beneficial effects here presented results indicate that as far as labour productivity is concerned, higher employment protection is preferred since it seems that more reassuring working conditions have a positive impact on employees' productivity. At the same time, negative economic trends reflected in higher unemployment rates and lower employment/population ratio in a way force employees to work harder in order to keep their jobs. Consequently, presented findings can be useful to policy makers since it is important to know that labour productivity can be induced via positive stimulations in form of GDP growth, increased expenditures on R&D and enhanced employment protection but at the same time it will have a sort of self-embedded adjustment system in form of unemployment rate and employment/population ratio.

REFERENCES

Arellano, M. and Bond, S. (1991): ***Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations***, The Review of Economic Studies, Vol. 58, No. 2, pp. 277-297.

Auzina-Emsiņa, A. (2014): ***Labour productivity and economic growth in the EU in post-crisis period***, Economics And Management, Vol. 19, No. 3, pp. 233-240.

Belorgey, N., Lecat, R. and Maury, T.-P. (2006): ***Determinants of productivity per employee: An empirical estimation using panel data***, Economics Letters, Vol. 91, No. 2, pp. 153-157.

Belot, M. (2007): ***Why is Employment Protection Stricter in Europe than in the United States?***, Economica, Vol. 74, No. 295, pp. 397-423.

Bierhanz, E. (2005): ***Lessons from America***, Economic Affairs, Vol. 25, No. 3, pp. 17-23.

Choudhry, M. T. (2009): ***Determinants of Labor Productivity: An Empirical Investigation of Productivity Divergence***, http://encuentros.alde.es/anteriores/xiieea/trabajos/pdf/104.pdf (accessed 5 January 2017).

Cole, R. A., Moshirian, F. and Wu, Q. (2008): ***Bank stock returns and economic growth***, Journal of Banking and Finance, Vol. 32, No. 6, pp. 995-1007.

Good, D., Nadiri, I. M. and Sickles, R. C. (1996): ***Index Number and Factor Demand Approaches to the Estimation of Productivity***, Working Paper No. 5790. Cambridge, MA, NBER.

Greenan, N., Mairesse, J. and Topiol-Bensaid, A. (2001): ***Information Technology and Research and Development Impacts on Productivity and Skills: Looking for Correlations on French Firm Level Data***, Working Paper No. 8075. Cambridge, MA, NBER.

Griliches, Z. (1992): ***The Search for R&D Spillovers***, Scandinavian Journal of Economics, Vol. 94, pp. 29-47.

Gust, C. and Marquez, J. (2004): ***International comparisons of productivity growth: the role of information technology and regulatory practices***, Labour Economics, Vol. 11, No. 1, pp. 33-58.

Huang, W. (2006): ***Emerging Markets, Financial Openness and Financial Development***, Working Paper No. 588. Bristol, Department of Accounting and Finance, University of Bristol.

Iuga, I. (2016): ***The Management Of Foreign Direct Investment And Influence On Total Employment Rate And Labour Productivity***, Polish Journal of Management Studies, Vol. 13, No. 1, pp. 81-89.

Lafontaine, F. and Sivadasan, J. (2009): ***Within-firm Labor Productivity across Countries***, In R. B. Freeman and K. L. Shaw, ed.: International Differences in the Business Practices and Productivity of Firms, University of Chicago Press, Chicago.

Mitze, T. and Özyurt, S. (2014): ***The Spatial Dimension of Trade- and FDI-driven Productivity Growth in Chinese Provinces: A Global Cointegration Approach***, Growth and Change, Vol. 45, No. 2, pp. 263-291.

Scarpetta, S. and Tressel, T. (2002): ***Productivity and Convergence in a Panel of OECD Industries***, Working paper No. 342. OECD Economics Department Working Papers.

Sharpe, A., Arsenault, J.-F. and Harrison, P. (2008): ***The Relationship between Productivity and Real Wage Growth in Canada and OECD Countries***, CSLS Research Report No. 2008-8. Otawa, Centre for the study of living standards

Stiroh, K. J. (2001): ***What Drives Productivity Growth?***, Federal Reserve Bank of New York Economic Policy Review, Vol. 7, No. 1, pp. 37-59.

Syverson, C. (2011): ***What Determines Productivity?***, Journal of Economic Literature, Vol. 49, No. 2, pp. 326-365.

Višić, J., Pervan, M. and Krasić, L. (2016): ***Has financial crisis (recession) affected labour productivity in EU countries?***, in: The 10th International Days of Statistics and Economics, Proceedings, The Department of statistics and Probability and the department of Microeconomics, University of Economics, Prague, The Technical University of Košice and Ton Duc Thang University, September 8-10, 2016, pp. 1968-1977.

Vukšić, G. (2015): ***Effects of Private Ownership, Trade, and Foreign Direct Investment on Labor Productivity Growth in Transition Economies: Evidence from the Croatian Manufacturing Industry***, Emerging Markets Finance and Trade, Vol. 52, No. 2, pp. 322-335.

Ana Vovk Korže, PhD.
University of Maribor,
Faculty of Arts, International Centre for ecoremediation
Koroška c. 160, 2000 Maribor, Slovenia
Phone: ++386 51 622 766;
E-mail address: ana.vovk@um.si

Silvija Zeman, PhD.
Međimurje Polytechnic in Čakovec
Bana Josipa Jelačića 22a, Čakovec, Croatia
Phone: +385994498247 Fax: +38540396980;
E-mail address: szeman@mev.hr

Danilo Korže, PhD.
Faculty of Electrical Engineering and Computer Science, University of Maribor,
Koroška cesta 46, SI-2000 Maribor
Phone: +386402207481: ++040 240 542;
E-mail address: danilo.korze@um.si

Marina Gregoric, PhD.
Međimurje Polytechnic in Čakovec
Bana Josipa Jelačića 22a, Čakovec, Croatia
Phone: +385994040164 Fax: +38540396980;
E-mail address: marina.gregoric@mev.hr

KNOWLEDGABLE YOUNG GENERATION PERSUE INNOVATIVE APPROACH IN FLOUR MILL SECTOR

MLADI TRAŽE INOVATIVNA ZNANJA NA PODRUČJU PREHRAMBENOG SEKTORA

ABSTRACT

With ecological approaches to farming, we more and more seek after safe food. In the area of flour milling sector there are many challenges with raw materials, marketing of local products, growing desires for sustainability, self-sufficiency, as well as with compliance with production standards and safety.
Young, who are being educated in flour milling sector in Slovenia, are bakers, millers and confectioners. They are aware about needs to acquire additional knowledge and skills, especially amongst young employed in this sector.
Data for research were acquired by two various workshops. The main purpose of first experiential workshop was to present to the students the importance of natural approaches for self-sufficiency, and to encourage them to think that anyone of us can become at least partially self-sufficient in everyday life. In the context of the different student activities implementation they also learned about the importance and opportunities for practical integration of sustainability into everyday life and future profession. The problems addressed by the second workshop were with educational sector. Aspects of sustainability are quite hidden in the educational system and not enough discussed about. Students in the course of education meet with the basic contents of environmental protection and sustainable development, but especially through the practical work, it appears that

the students hardly transmit the theoretical knowledge into everyday practice and to their local environment.
The purpose of the workshop with participation of the young employees, representatives from the education sector, was to obtain views on the needs and problems, as well as sustainability aspects in the food sector educational system.
Our aim in the research in this article is to find determine which competencies are needed, where students see challenges in their profession. We conclude in our findings that digital open learning environment must be established for permanent and continuing education of young candidates.

Key words: *sustainability, lifelong education, floury food sector, safety food, young employees.*

SAŽETAK

Uz ekološke pristupe uzgoja sve je veća potražnja za sigurnom hranom. U sektoru mljevenja postoje mnogi izazovi, kao sigurnost sirovina (žitarica) , prerada (standardi za proizvode i velika ponuda lokalnih proizvoda) te prodaja (višestruke mogućnosti prodaje i jačanje samodostatnosti).
Mladi koji se educiraju u sektoru mljevenja u Sloveniji su pekari, mlinari i slastičari. Svjesni su potreba za dodatnim znanjima i vještinama, što je posebno izraženo u ovom sektoru.
Podaci za istraživanje su iz dvije različite radionice. Glavna svrha prve iskustvene radionice bila je predstaviti učenicima važnost prirodnih pristupa za samodostatnost i potaknuti ih da misle da svatko od nas može postati barem djelomično samodostatan u svakodnevnom životu. U kontekstu različitih provedbi studentskih aktivnosti saznali su i važnost i mogućnosti za praktičnu integraciju održivosti u svakodnevni život i buduću profesiju.
Problemi s kojima se bavila druga radionica su iz obrazovnog sektora.
Aspekti održivosti prilično su skriveni u obrazovnom sustavu i nisu dovoljno razmotreni. Učenici, studenti se tijekom školovanja susreću s osnovnim sadržajima zaštite okoliša i održivog razvoja, kroz praktični rad vidljivo je da učenici teško prenose teorijska znanja u svakodnevnu praksu i u njihovo lokalno okruženje.
Svrha radionice bila je dobivanje mišljenja o potrebama i problemima, kao i uključivanje aspekata održivosti u obrazovni sustav prehrambenog sektora na predstavnike obrazovnog sektora, mladih zaposlenika i radne snage.

Ključne riječi: *održivost, cjeloživotno obrazovanje, pekarski sektor hrane, sigurna hrana, mladi zaposlenici.*

1. Introduction

In the last decade, consumer awareness of food safety has grown significantly. In the early 1990s the Council of the European Community took an important step towards enhancing food safety by publishing Directive 93/43 / EEC on food safety, which incorporates in its philosophy the principles of HACCP Hazard Analysis and Critical Control Points (European Union (2001). Floury food which is one of cheapest food, which can be obtained easily, occupies a significant place among eating and drinking habits whereas, it is also directly correlated with public health. However, major part of those working in such sector so closely related with public health are applying what they learn at work by method of "Master-Apprentice" procedure which is the traditional way of training; and, learning about the developments occurring in the sector and about the changing supply demand equilibrium remains limited just with the information received from the master.
Key challenges miller's and bakery industry represent improvements in the field of legislation, which allow chaining of businesses and more effective cooperation, solving the problem of the informal economy on the market, encouraging the production of better quality homemade bread, wheat and systemic measures to encourage the consumption of domestic products made from

domestic raw materials (Podgoršek, 2010). For the production of cereals, it is also necessary to have technological progress, which is based on the integration of the sector with science, smart specialization and cooperation of all stakeholders with regard to new development projects, which would significantly contribute to the reduction of imports of cereals and an increase in exports of bakery products. In the future, it will be more effective to contribute to the vertical integration of the sector from the seller to the buyer and in the grain processing industry from farmer to processor (Izbrana kakovost, MKGP). The final baker's products in the future must achieve a higher standard of quality, in line with the regulations on the quality and safety of foods in the EU (Information about Food safety and concern for consumer in Slovenia and Ensuring the safety of food, Slovenian Business point).

Due to the small size of Slovenian market there is an opportunity for the further development of miller's industry and bakery in a quality boutique production and safe preparation of products from local raw materials with high added value, which follow the trends in the market in the direction of niche products, where products from organic, raw materials are classified along with gluten-free products, products with less fat, salt and sugar. The sector is also facing the challenge of tackling the public tenders and participation in the procurement guidelines for simplifying public ordering and the reduction of the food that is thrown away. Members of the section of miller's industry and bakery will in the future try to make connections with partners from abroad and learn about foreign good practices.

Adaptation of the youth involved in the sector must be ensured towards increasing productivity by making them acquire new skills, which would make it easier for them to get adapted to the developing technology base and the global transformations of manpower.

The main aims are to bring together the concerned parties to ensure a bridge set-up between the youth and the parties, and to present to the youth the chance to participate in the decision processes about their own careers and training. Two workshops were carried out to obtain data.

2. Methodology

2.1. Methodology introduction of the workshop 1

Workshop 1 of the project Floury Food Safety was hosted in Municipality of Poljčane, Educational Polygon for Self-sufficiency Dole, on 24th of April 2017.
Before the workshop, we have prepared a script and a program of the workshops for the presentation of sustainable approaches in the field of self-sufficiency, production and food processing in real circumstances on the Educational Polygon for Self-sufficiency Dole. The main purpose of the activity is the encouragement of young people to change lifestyle and working practices towards greater sustainability and responsibility to the profession and the presentation of the project and implementation of questionnaire for the purpose of obtaining feedback on the needs in the development of key competences and skills of young people to carry out the profession of a baker and confectioner. We invited the local high school for food science and nutrition from Maribor to cooperate.
Before the implementation of the workshop, worksheets were prepared for all participants for the implementation of mini workshops, to learn about the practical characteristics of the soil on the field and the survey questionnaire for young people who intend to work in the food sector.
All graphic material is the result of research by authors.

2.2. Methodology introduction of the workshop 2

Workshop 2 of the project Floury Food Safety was hosted in Educational Centre Piramida Maribor, on 12th June 2017.

Before the workshop, we have prepared a script and a program of the workshop for the presentation of educational approaches for sustainable development in the food sector. The main purpose of the activity is the encouragement for young people to change their lifestyle and working practices towards greater sustainability and responsibility to the profession and the presentation of the project and implementation of questionnaire for the purpose of obtaining feedback on the needs in the development of key competencies and skills of young people to carry out the profession of a baker.
The first part of the workshop was devoted to the presentation of the discussed issues, presentation of the project and execution of open discussion and questionnaire with students on the theme under consideration.
In the second part of the workshop, in the framework of the guided tours, we visited the production plant of the EC Pyramid using the method of face to face individual interviews with the young staff in the food sector (confectionery) and teachers of practical classes in order to obtain information on the needs in the field of education and work experiences.

3 Results and discussion

3.1. Workshop 1 implementation on 24-04-2017 – Dole, Slovenia with students of Secondary school for Food Processing and Nutrition Maribor, 2nd class, program baker and confectioner

Slovenia does not cover its own needs for agro-food products and the degree of self-sufficiency is much diminished. Because of the increase of global food and environmental uncertainties and doubts in the long-term environmental sustainability of the current way of solving the problem of food safety, production and fair food distribution, there are a growing number of experts that highlight the importance of food self-sufficiency at the local and regional level. In doing so, are very important the local traditional practices, arising from the geographical characteristics of the area that are adapted to the environmental capacities.

The new agricultural policy after year 2015, promote self-sufficiency mainly in the production of bread cereals and the revival of the traditional old species, which would subsequently contribute to the increase in domestic production of bakery and mill products (Slovenian Agriculture in Numbers 2016).

To sum up, we presented to the second year students of the Secondary school for Food Processing and Nutrition Maribor, a good example of practice-teaching course for self-sufficiency, where they can learn through their own experiences and simple natural approaches of self-sufficiency in the field of production and processing of food and the sustainable use of renewable natural resources (Food Production & Processing, Food Niche Markets).

In the context of the workshops students saw the permaculture arrangements at the Educational Polygon for Self-sufficiency Dole for sustainable farming and food processing. Students have, through their own experiences during the implementation of mini hands-on workshops and worksheets, got acquainted with simple methods of getting to know the properties of the soils, which are essential for high-quality food production. After the completion of the workshop the young people were invited to fill in the questionnaire.

The final part of the workshop was devoted to reflection on the activities carried out, the exchange of opinions, open discussion on the problems of the educational system in the field of food sector and opportunities for enhancing the development of competences.

The workshop was attended by 56 students of the program baker and confectioner.

We have included in the workshop second year students of Secondary School for Food Processing and Nutrition from Maribor, who intend to work in FF sector. Students in the second year listen to the subject of environmental protection with the basics of sustainable development that is why we were interested in how they understand the aforementioned content and how they can place them in the daily work and life. At the same time, we wondered what was missing during the educational process, and which competences and skills are considered essential for effective work in the miller's industry sector.

Figure 1 *Workshop implementation at the Educational Polygon for Self-sufficiency Dole with 2nd class students of the Secondary School for Food Processing and Nutrition Maribor*

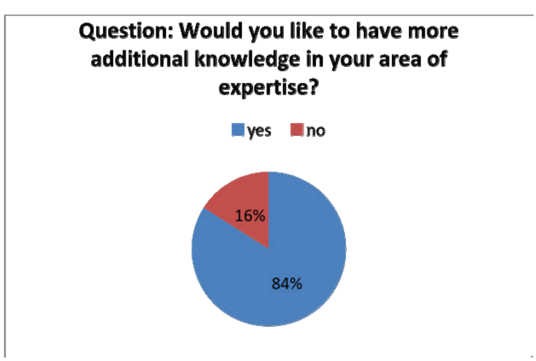
Source: the authors of the paper

Results of the workshop 1 with students

At the end of the tour the students of 2nd year of the programs baker and confectioner, were invited to fill in the questionnaire. Before filling-in the questionnaire, the crucial starting point of the project, the purpose, objectives and intellectual results were presented. Students were presented the key issues of the food sector in the field of education and the implementation of work practices. The main purpose of the implementation of the survey has been testing the working of the questionnaire and obtaining feedback on the current needs of the educational process and working practices.

The analysis of the questionnaire showed that students want more independent work, practical experiences in the course of practical work experience, both in the school and in the case of prospective employers, more tours of good practices in a wide variety of companies both at home and abroad, they want the extra education to acquire new additional skills in order to strengthen and develop the key competences to do better work in the food sector.

Figure 2 *Young people want to have more knowledge in area of FFS*

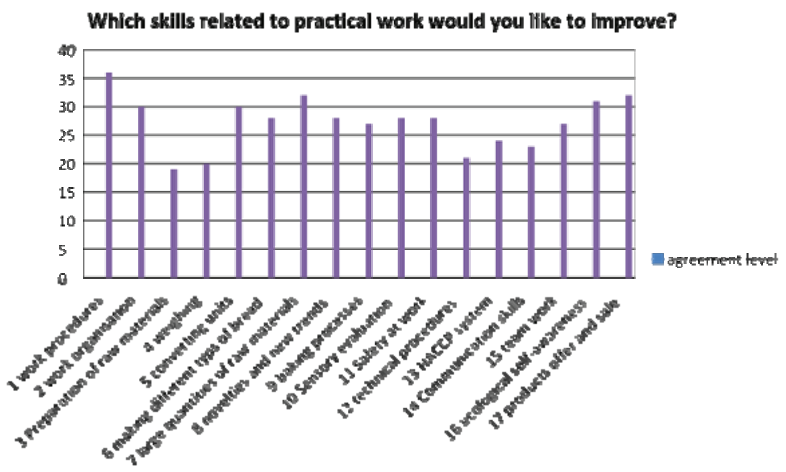


Source: the authors of the paper

On the issue of what competences and skills you want to develop in the course of education, it was pointed out in particular: knowledge of working process, working with large quantities of raw materials, strengthening of ecological awareness, skills, supply and food products, skills, organisation of work, converting metric units, safety at work, teamwork.

On the question of what was missing in the practical education it was highlighted, in particular, the desire for more student-teacher work as well as teamwork. They miss more individual work, innovations and more practical experiences relating to the educational program. They also want more professional subjects that are supported by practical exercises, to adapt learning content to a particular program.

Figure 3 *Young people need more experiences on the field of work procedures, large quantities of raw materials, products offer and sale.*



Source: the authors of the paper

3.2. Workshop 2 implementation on 12-06-2017 Maribor, Slovenia with educational sector representatives, young employees and students from Secondary School for Food Processing and Nutrition Maribor

Aspects of sustainability are quite hidden in the educational system and not enough talked about. Students in the course of education meet with the basic contents of environmental protection and sustainable development, but especially through the practical work, it appears that the students hardly transmit theoretical knowledge into everyday practice and to their local environment. The purpose of the workshop is to raise awareness on the importance of self-sufficiency for the students and opportunities for the integration of elements of sustainability both in everyday work and life.
The purpose of the workshop was to obtain views on the needs and problems as well as the inclusion of aspects of sustainability into the educational system of the food sector by representatives of the education sector, the young employees and working force. Along with this we have performed a guided tour of the implementation of the practical part of the exam and production plant of the Educational Centre Pyramid.

In particular, we were interested in how students understand aspects of sustainability and how they can include them in the practical work, daily life and where do they see problems for successful integration into the work process with prospective employers.

From practice teachers and young employees, we wanted to obtain information about key problems for successful integration of students in practical work, as well as the possibilities for the improvement of the educational system to overcome such problems and needs.

Figure 4 *Workshop implementation at the Pyramid - Secondary School for Food Processing and Nutrition Maribor*

Source: the authors of the paper

Results of the workshop 2

<u>Problems that students expect in the integration into the work process</u>

- Lack of knowledge in the field of working with equipment, machinery (solution: more practical work and working in real situations).
- Unfamiliarity with the new working environment (solution: more practical work and working in real situations).
- Due to the small number of hours of practical work in the primary grades, students believe that they lack practical experience in order to integrate into the working environment (solution: more practical work and working in real situations).
- They think that conversions from metric units are not problematic for them, since they learn them at the beginning of schooling (opinion does not comply with the opinion of the teachers of practical classes and they expose problems when students have to convert).
- In the context of educational process, they learn about the content of sustainability and they are aware of the importance of quality of raw materials, origin and traceability of the raw materials. In their practical work, as well as at home they use quality raw materials to achieve a higher quality of the final product.
- They want more practical knowledge for a more consistent transmission of sustainable content into practice and everyday life (solution: to put more emphasis on sustainability topics in the training program and more work experiences so that students recognize how to transfer theory into practice and everyday life).
- Relations with superiors, colleagues (solution: to enhance students' communication skills, values, responsibility and respect for one's own work over the course of education).

There is a substantial difference between students and young employees, they last one understand their responsibility and feel obliged to act professionally (Simpozij mlinarstvo in pekarstvo, 2014-15). They have a great interest in new developments, changes and looking for new, different and sustainable skills. From the perspective of the young employees, we are optimistic as they are trying to do their job green, and they want this kind of green up-skilling.

Figure 5 *Important competences for young people*

Source: the authors of the paper

On the question of which competences students should develop for successful work in the profession, the teachers of practical classes highlighted in particular the knowledge of work and technological processes, knowledge and preparation of raw materials, conversion of units and weighing by the recipes, knowledge of baking processes, occupational safety and HACCP system. They agree that young people need to obtain as much practical experience as possible in the course of education in specialized classrooms.

4. Conclusions

Young people in the course of the study are not yet aware of the integrity of the relationships, their responsibilities, and do not express deep expectations, but they are too tied to the school system, which equips them with basic skills, but not with decision making, sustainability, or social competences, which are essential for responsible decision making about healthy and safe food in the field of miller's industry of the sector (Sajovic, 2014). Therefore, it will be necessary to include sustainable aspects on a more practical level and not through theory.

The analysis of the survey questionnaires showed that students miss more practical experience both in the classroom as well as among employers, where they would strengthen the knowledge mainly in the field of the organisation of working process, learn about the innovations and trends in the food sector and strengthen the ability to work in a team. The important thing for them is getting the skills in the field of measurement (convert units, measuring by recipes), working with large quantities of raw materials, knowing the rules of safety and hygiene regulations.

Teachers of practical classes are keen to learn young people skills and they also use sustainable approaches, because they perceive demand for them. They are aware of the importance of healthy chains, the integration of the local environment and because they have a bad experience with global trade, also want to equip more sustainable approaches. We believe that the food sector in Slovenia, is conscious of the importance of sustainable approaches, but everyone is stressing that any kind of education in this area is highly desirable.

REFERENCES

European Union (2001): ***A Sustainable for a better World***: The European Sustainable Development Strategy 2001. Brussels, 15.5. 2001. COM(2001)264

Vovk Korže, A., Korže, D. (2018): ***Agroecology for our future***. International journal of inspiration & resilience economy, 2018, vol. 2, no. 1. http://article.sapub.org/10.5923.j.ijire.20180201.01.html, doi: 10.5923/j.ijire.20180201.01.

Vovk Korže, A., Zeman, S., (2018): ***The evaluation of achieving sustainable development in the town of Maribor.*** *Geografski pregled*, ISSN 0435-3714, 2016, no. 37, str. 65-8

Internet sources:
Ensuring the safety of food, Slovenian Bussines point. Retrieved from: http://eugo.gov.si/en/other-conditions/otherCondition/14119/showOtherCondition/

Food Production & Processing, Food Niche Markets, Distribution Channels. Food Sector / Slovenia| December 2013. Retrieved from: https://www.flandersinvestmentandtrade.com/export/sites/trade/files/market_studies/672131220135000/672131220135000_1.pdf
Information about Food safety and concern for consumer in Slovenia. Retrieved from: http://www.seerural.org/wp-content/uploads/2010/03/Information-about-Food-safety-in-Slovenia.pdf

Izbrana kakovost, MKGP = The selected quality scheme. Ministry of agriculture, Forestry and Food. Retrieved from: http://www.mkgp.gov.si/si/delovna_podrocja/kmetijstvo/izbrana_kakovost/

Kruh blagovne znamke Anzej Panzej obogatil tradicionalni slovenski zajtrk. Obrtno podjetniška zbornica Slovenije = The bread of the brand Anzej Panzej enriched the traditional Slovenian breakfast- Chamner of Craft and Small Business of Slovenia. Retrieved http://www.ozs.si/Ponudba/Novice/Novinarskosredi%C5%A1%C4%8De/Podrobnostnovice/tabid/1501/ArticleId/2713/Default.aspx

Podgoršek, J. (2010): ***Food supply chain relationships ombudsman***. Ministry of agriculture, Forestry and Food. Retrieved from: http://www.mkgp.gov.si/en/about_the_ministry/food_supply_chain_relationships_ombudsman/

Sajovic, K. (2014): ***Bread-baking mania in the capital:*** does Ljubljana really need more bakeries? 5. October 2014 Ljubljana - MMC RTV SLO. Retrieved from: http://www.rtvslo.si/news-in-english/cuisine/bread-baking-mania-in-the-capital-does-ljubljana-really-need-more-bakeries/347965

Slovenian Agriculture in Numbers 2016. Agriculture Insitute of Slovenia. Retrieved from: http://www.kis.si/f/docs/Slovenian_Agriculture_in_Numbers/KIS_Slovensko_kmetijstvo_v_stevilkah_2016_ANG_splet.pdf

11. Simpozij mlinarstvo in pekarstvo: Embalaža v mlinarstvu in pekarstvu. 11th symposium milling and baking: Packaging in milling and bakery. Retrieved from: http://www.mkgp.gov.si/si/medijsko_sredisce/novica/archive/2014/5/browse/6/select/sporocilo_za_javnost/article/12447/7351/

Maja Vretenar Cobović, Senior Lecturer, Ph. D.
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: +38598448720
E-mail address: Maja.VretenarCobovic@vusb.hr

Mirko Cobović, Senior Lecturer, Ph. D. Student
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: +385958660931
E-mail address: Mirko.Cobovic@vusb.hr

Jasna Vujčić, Senior Lecturer, M.A.T.
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: +385915650799
E-mail address: jasna.vujcic@gmail.com

ECONOMIC EFFECTS OF LIFE INSURANCE IN THE REPUBLIC OF CROATIA - INTEREST AND PARTICIPATION OF POPULATION

EKONOMSKI UČINCI ŽIVOTNIH OSIGURANJA U REPUBLICI HRVATSKOJ – INTERES I PARTICIPIRANJE STANOVNIŠTVA

ABSTRACT

Life insurance is today one of the most attractive and most popular forms of investment worldwide. It can be defined as long-term savings that provide some protection against financial losses that arise as a result of unforeseen events in the life of the insured person. Life insurance is a type of insurance with special characteristics that are different from other insurances. It is long-term and economical, and the secured amount of money is always paid to the insured or the beneficiary of insurance.

While life insurance in developed European countries is very significant, in Croatia, this type of insurance is still poorly developed. The reason for the low number of life insurance is poor information and citizens' interest in participating in certain types of voluntary insurance as well as a low standard of population. Life insurance in the Republic of Croatia is still being identified with savings in the bank. Citizens are neglected or ignorant of the fact that life insurance has a number of advantages over classical savings. However, over the last few years the continuous increase in paid life insurance premiums proves that the public's interest and awareness is changing with regard to this insurance.

The aim of this paper is the analysis of life insurance in the Republic of Croatia from the aspect of its main characteristics and categories. In addition, the authors analyze the life insurance market in Croatia, as well as offer insurance schemes for life insurance schemes and their premiums. Thereby using a set of scientific research methods (methods of analysis, comparisons, induction, deduction, descriptors and classifications, etc.) as well as some statistical-mathematical methods used to analyze certain variables. Ultimately, authors conduct primary research on interest and participation of population in certain forms of life insurance, and make concrete conclusions about how to improve this type of activities.

Key words: *insurance, life insurance, participation, interest of the population, Croatia.*

SAŽETAK

Životno osiguranje danas je jedno od najatraktivnijih i najzastupljenijih oblika ulaganja u cijelom svijetu. Moguće ga je definirati kao dugoročnu štednju koja pruža određenu zaštitu od financijskih gubitaka, a koji nastaju kao posljedica nepredviđenih događaja u životu osigurane osobe. Osiguranje života je vrsta osiguranja s posebnim karakteristikama koje se razlikuju od ostalih osiguranja. Ono je dugoročno i ekonomično, a osigurana svota novca je uvijek isplaćena osiguraniku ili korisniku osiguranja.

Dok je u razvijenim europskim zemljama životno osiguranje vrlo značajno, u Republici Hrvatskoj ova vrsta osiguranja još uvijek je slabo razvijena. Razlog malog broja životnih osiguranja je slaba informiranost te zainteresiranost građana pri participiranju u određene vrste dobrovoljnijih osiguranja kao i nizak standard stanovništva. Životna osiguranja u Republici Hrvatskoj još uvijek se poistovjećuju sa štednjom u banci. Građani pri tome zanemaruju ili nisu upoznati s činjenicom da životno osiguranje ima niz prednosti u odnosu na klasičnu štednju. No, u posljednjih nekoliko godina kontinuirani porast uplaćenih premija za životno osiguranje ipak dokazuje da se interes i svijest građana mijenja u pogledu ovoga osiguranja.

Cilj ovoga rada je analiza životnog osiguranja u Republici Hrvatskoj s aspekta njegovih glavnih obilježja i vrsta. Pored toga, autori analiziraju tržište životnog osiguranja u Hrvatskoj te ponudu programa osiguravajućih društava vezanih uz police životnih osiguranja kao i njihove premije. Pri tome koriste niz znanstvenih metoda istraživanja (metode analize, komparacije, indukcije, dedukcije, deskripcije i klasifikacije itd.) kao i pojedine statističko-matematičke metode korištene za analizu određenih varijabli. U konačnici autori provode primarno istraživanje vezano uz interes i participiranje stanovništva u pojedine oblike životnih osiguranja te donose konkretne zaključke kako unaprijediti ovu vrstu djelatnosti.

Ključne riječi: *osiguranje, životna osiguranja, participiranje, interes stanovništva, Hrvatska.*

1. Introduction

Uncertainity of everyday life and risk have always been an integral part of the overall human life. Insurance is the most common and most important form of risk fighting the events that can not be avoided, but can be remedied or at least mitigated by the consequences of these events. One of the most widespread forms of insurance in the world is life insurance, and the most significant place occupy a form of insurance that combines very important things today - insurance and savings. Savings are the basis for the future, while insurance has long become an indispensable part of life and represents a guarantee for a carefree future.

2. The term, role and significance of an insurance activity

The concept of insurance as well as the concept of its participants, premiums of that market and risk is the same for all types of insurance. Given the complexity of insurance business, insurance should be observed from various aspects. Therefore, the following definitions arise: Insurance is an economic activity by which money is collected for the protection of persons and things from the harmful consequences of extraordinary events or the elimination of the economic damaging consequences of such occurrences (Klasić, Andrijanić, 2007, 12). Insurance as a legal relationship is based on a contract whereby one person (insurer), with the payment of a certain price (insurance premiums), commits to another person (the policyholder) to pay a certain amount (insured amount) a certain remuneration for the injured person or things, resulting from a contract of foreseen causes (secured risks) (Klasić, Andrijanić, 2007, 12). Insurance is the method of transferring the risk from

a policyholder to an insurer who accepts to compensate for damages to those in which they were created and distributed to all members of the risk community on the principles of reciprocity and solidarity (Andrijašević, Petranović, 1999, 23).
In addition to the very definition of insurance, it is very important to invite its participants. The policyholder is a legal person with whom an insurance contract has been concluded and which undertakes to compensate the policyholder in accordance with the insurance conditions to compensate for the damage or pay off the insurance itself. The insurance contractor is the person with whom the insurer concluded the insurance. The contractor is obliged to pay the insurance premium and to fulfill other obligations under the contract to the insurer. The insured person is a person covered by the insurance contract whose property interest is insured and to which the insurance rights belong and the person whose retirement, death, disability or disturbed health depends on the payment of the insurance compensation. An insured person is a person to whom the insured can also be covered by the insurance contract (in the case of the insured's death). The insured person is ordinarily determined by the contractor in agreement with the insured. A reinsurer is an insurance company that undertakes to pay a direct or indirect portion of the amount of damages that it would have to pay to its insured person under a reinsurance contract (a reinsurance contract of a part of the risk assumed by a direct insurer).

2.1. Insurance premiums

The insurance premium is the insurance price, ie the amount the insurance contractor pays to the insurer on the basis of the concluded insurance contract. The insurance premium consists of a functional premium and a replenishment allowance. A functional premium consists of a technical premium for damage compensation and the disbursement of the contracted amount and the preventive part used to remedy or reduce the adverse effects that can cause damage. The supplementary supplement is used to cover the costs of carrying out the insurance business (salaries of employees of insurance companies and commissions on insurance contracts, maintenance costs such as invoicing, marketing, call center services, etc.). The basis for calculating the premium depends on the subject of the insurance (Rafaj, 2009, 14).

2.2. Insurance risk

Secured risk implies an event that may occur in the future, which is uncertain and independent of the sole will of the policyholder or insured. A secured risk is the risk specified in the insurance contract, a manifestation of which is a secured case or damage to the insured property or life of the policyholder or insured person. The risks can be: transferable and non-transferable, merchandise and financially, insurable and uninsurable.

3. Legal framework of insurance business

From a legal point of view, the insurance contract governs all rights and obligations of both contracting parties, ie contractor and insurer. The insurance contract is a two-way legal transaction whereby the policyholder is obliged to pay the insurance premium and the insurer pays insurances in the event of a secured case to the insured or the user. The basic principles on which each insurance contract is based are: the principle of compensation for damages, the principle of secured interest, the principle of good faith and the principle of subrogation. Depending on the subject-matter of the insurance contract, the contracts may be individual and general (open-end contracts), and according to the duration of the insurance contracts, contracts are divided into fixed-term contracts and contracts for an indefinite period of time.
In addition to the insurance contract, other documents relevant to the performance of the insurance business are the insurance offer, the insurance policy, the cover sheet and the insurance certificate. The insurance offer may be in written and oral form depending on the type of insurance it is to be

provided for. It is most often written on the insurer's official paper and is submitted by the insurer. The insurance policy is a written document on the concluded insurance and is an integral part of the insurance contract. The basic elements of the insurance policy are the parties to the contract, the insured person or the person, the insured risk, the duration of the insurance and the time of cover, the insurance amount or limit of cover, the amount of the premium or the contribution (the role), the date of the issuance of the insurance policy and the signatures of the contracting parties (Rafaj, 2009, 13). The cover sheet is a written document used as proof of a signed insurance contract and is most often issued in the case where the policyholder or insured person needs an emergency confirmation of the existence of the insurance. The cover sheet contains only the most basic information about the concluded insurance and can serve as a temporary replacement for the insurance policy (Rafaj, 2009, 13). An insurance certificate is a document on a concluded contract and is used when it is not necessary to issue an insurance policy. It serves as an evidence of the existence and the content of the insurance contract and it is valid for the entire duration of the insurance (Rafaj, 2009, 17).

4. Types of insurance

Grouping of the same or related risks into special groups can be done by dividing the insurance. Accordingly, insurance may be subdivided according to the manner in which the insurance contract is concluded, the status of the insured person, the subject of the insurance and the relatedness of the risks they cover. However, the most common is the insurance division, which is used in theory and practice, according to the criterion of balancing insurance business, including non-life and life insurance.

4.1. Non-life insurances

Within the non-life insurance group, there are types of insurance that are different in terms of risks. Non-life insurance, according to the Insurance Act (Official Gazette, No. 30/15), are divided into: accident insurance, health insurance, road vehicle insurance, vehicle insurance, airline insurance, boat insurance, cargo insurance, insurance from fire and elementary damages, other property insurance, liability insurance for motor vehicles, liability insurance for the use of aircraft, liability insurance for the use of vessels, other liability insurance, credit insurance, collateral, insurance of various financial losses, insurance the cost of legal protection and travel insurance. Certain non-life insurances are mandatory and are determined voluntarily and settle in case of the wishes and needs of the insured.

4.2. Life insurances

Life insurance against to non-life has certain benefits such as savings component, and fixed premium. The insurance policy is created according to the needs of the insured and the remuneration is always paid. According to the Insurance Act (Official Gazette No. 30/15), life insurance is divided into:

1. Life insurance
    a) life insurance covering the following risks (life insurance for survival, life insurance for death, mixed life assurance in the case of death and life expectancy, life insurance with premium reimbursement, provision of critical illness, life assurance in the event of death and other life insurance)
    b) rental insurance
    c) supplementary insurances with life insurance
2. Insurance for a marriage or a life partnership or birth
3. Life insurance and rental insurance
4. Tontine insurance

5. Payment Capital Assurance
6. Managing the funds of mutual pension funds.

4.3. Characteristics and types of life insurance

Life insurance is a certain type of savings over a longer period of time with an emphasis on securing a person from unforeseen circumstances. With contracted life insurance, the insured is sure to be covered if an unforeseen disease occurs or if the person is currently unable to work. Likewise, with life insurance the insured will provide certain financial security to his closest in case the person does not experience the expiration of the police. As a basic feature of life insurance it is possible to state: long-term - life insurance contract is usually concluded for a period of 10 to 20 years; volunteering - life insurance is voluntary only, and the conclusion of a contract depends on the wishes and needs of the policyholder; protective function - the insured (insurance beneficiary) is entitled to compensation if the insured event occurs; savings function - life insurance has a savings component, at the end of life insurance, in case of experiencing, the insured amount is increased for the gained earnings; fixed premium - the premium level for the entire duration of the insurance is equal and the amounts are usually paid off by montly statements; the policyholder shall determine the amount of the premium and the amount of the sum insured; in most states there are, also, tax reliefs.

In practice, the following three types of life insurance are usually contracted:

1. mixed insurance – which means life insurance in the case of death and survival of a person with a contracted participation in profit. In the case of mixed insurance, the insured is insured in the event of the death of the insured person and during the insurance period is paid to the beneficiary or to the insurance beneficiaries. In the case of experiencing insurance, the insured sum, increased for the earned income, shall be paid to the insured upon the expiry of the life insurance policy.
2. insurance for a survivor's case - a policy where the sum insured is paid only if the insured person reaches the expiration of the contracted deadline. In case the insured person does not experience the expiration, the police or beneficiaries of the insurance are legally not entitled to the payment of the contracted amount. This type of life insurance in practice is usually contracted in conjunction with the premium reimbursement paid in the case of death.
3. death insurance (risk) - risk police is the name of the insurance policy made in the case of death. It is characterized by the payment of the insured amount during the duration of the insurance contract, the user or the policyholders only in the event of the death of the insured. If a policyholder experiences an expiration of a policy or dies after the date stated on the policy, as the expiry date of the insurance, the insured premium is retained by the insurer. Unlike mixed insurance policies, life insurance risk is not based on savings but provides financial security to the closest in the case if a mortal accident occurs.

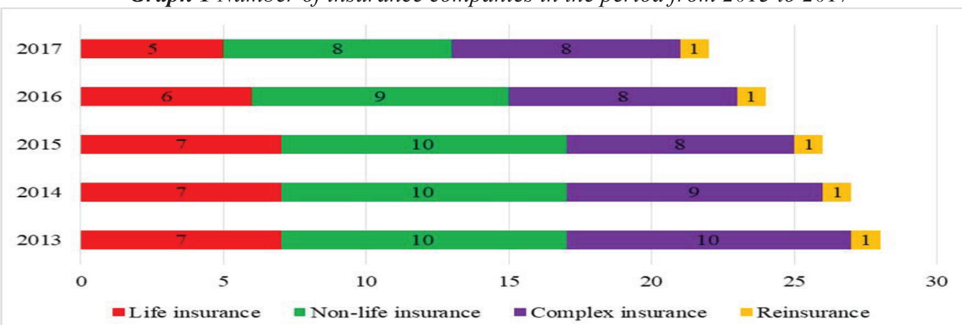
In addition to the types of life insurance most commonly encountered in practice, other types of life insurance should also be mentioned:

1. rental insurance - in the case of insurance annuity, the policyholder acquires the right to pay monthly, quarterly or annual installments for a lifetime or for a specified period. The contract has a predetermined amount of rent, and may be equal, decreasing or increasing in each period. In most cases, the aforementioned insurance is concluded as a supplement to the pension.
2. supplementary insurances with life insurance - are contracted when contracting life insurance and cover risks such as, for example, injuries including incapacity for work, death by accident and disability caused by accident or illness.
3. insurance linked to investment funds - is a combination of life insurance and investment in investment funds. The policyholder in this type of insurance investment risk borns it by himself, and depending on the price of securities forms the amount of the contracted amount.

5. Life Insurance Analysis in the Republic of Croatia

The insurance market in Croatia has experienced numerous changes recently such as the financial crisis, legislative changes, competition and the entry of the Republic of Croatia into the European Union. In the national economy, the magnitude and share of life insurance premium is largely affected by the stability of macroeconomic factors, of which the unemployment rate and the rate of economic growth, tax policy and per capita income are important to mention. In the Republic of Croatia, during the year 2017, twenty-two insurance companies were active in the insurance market, which provided life insurance, non-life insurance and complex insurance as well as reinsurance business insurance (Graph 1).

Graph 1 *Number of insurance companies in the period from 2013 to 2017*



Source: Croatian Financial Services Supervisory Agency (HANFA), authors

According to the data in the graph, it is possible to see a drop in insurance companies dealing with life, non-life and complex insurance activities within the observed period. Reinsurance business insurance has only one insurance company in Croatia. In addition, it is possible to notice a significantly smaller number of life-related companies in relation to non-life insurance. The total number of life insurance products by its types is shown in Table 1.

Table 1 *Life insurance by types*

Types of life insurances	2013	2014	2015	2016	2017
Life insurance	775,641	778,904	784,514	798,445	823,127
Rental insurance	2,110	1,993	2,043	2,584	3,637
Additional insurance with life insurance	568,947	608,100	615,235	653,922	641,771
Insurance in case of wedding or birth	4,062	3,905	3,575	3,289	3,051
Life insurance in which the insured person assumes an investment risk	52,122	47,817	42,588	34,068	38,738
Tontine insurance	0	0	0	0	0
Capitalisation insurance	0	0	0	0	0
TOTAL	**1.402,882**	**1.440,719**	**1.483,955**	**1.492,308**	**1.510,324**

Source: Croatian Financial Services Supervisory Agency (HANFA), authors

According to the data in the table, the total number of life insurance in 2017 compared to 2013 is higher by 107,442, ie by 7.65%. In addition, there has been a constant increase in the number of life insurance products within the last five years. If life assurance is observed individually, classical life insurance and rental insurance are growing steadily, while additional insurance increases by 2016, and in 2017 it is declining. Wedding and birth insurance and life assurance for which the insured person assumes the investment risk are falling through the observed period. If we observe the share of non-life and life insurance in the total number of insurances according to the data of the Croatian Insurance Bureau (HUO) and HANFE within the observed period it is possible to notice a significantly higher share of non-life insurance in relation to life assurance. The share of non-life insurance on average is 85%, while the share of life insurance is 15% and there are tendencies of falling and growth in the period from 2013 to 2017. The overview of gross premiums written by type of life assurance is presented in Table 2.

Table 2 *Gross premium written for life assurance types (in HRK)*

Types of life insurances	2013	2014	2015	2016	2017
Life insurance	2.134.691,019	2.231.681,837	2.322.979,743	2.478.271,069	2.243.389,372
Rental insurance	8.225,471	11.093,227	20.083,123	60.901,074	42.813,871
Additional insurance with life insurance	165.224,227	158.537,348	151.662,865	147.679,362	141.557,312
Insurance in case of wedding or birth	8.243,703	7.600,755	6.795,656	6.303,528	5.675,827
Life insurance in which the insured person assumes an investment risk	144.769,527	129.500,837	136.263,001	241.266,072	485.004,676
Tontine insurance	0	0	0	0	0
Capitalisation insurance	0	0	0	0	0
TOTAL	**2.461.153,946**	**2.538.414,004**	**2.637.784,389**	**2.934.421,105**	**2.918.441,057**

Source: Croatian Financial Services Supervisory Agency (HANFA), authors

According to the data in the table, the total gross written premium in 2017 recorded an increase of 18.58% compared to 2013. In addition, the rise in total premiums between 2013 and 2016 is noticeable, while its decline was recorded in 2017 compared to 2016. Observed by the types, the largest share in total premiums occupy classic life insurance. Rental insurance recordes premium growth until 2016, while other types recorded a fall in paid premiums within the observed period.

6. Interest of citizens of the Republic of Croatia for life insurance - results of primary research

For the purpose of collecting relevant information on the interest of the Croatian citizens on life assurance, a primary survey was conducted through the survey method, and for the survey, the questionnaire was used as an instrument. The survey was conducted in February and March 2018, on a sample of 392 respondents, and the target group of the sample included employed persons in small, medium and large enterprises in the Republic of Croatia. The questioning was conducted by sending a questionnaire electronically. The questionnaire was structured in two parts. The first part of the questionnaire was related to the survey of basic sample data (gender, age, completed qualification, monthly income), while the other part of the questionnaire was related to life insurance issues (reasons for contracting life insurance policies, premium amount, term of negotiation, other forms of savings, etc.). The age and sex structure of the respondents is presented in Table 3.

Table 3 *Age and sex structure of respondents*

Age limits		18-29	30-45	46-55	56-65	TOTAL
Male	Number of participants	36	114	78	43	271
	% gender	13.28%	42.07%	28.78%	15.87%	100%
	% age	41.38%	56.72%	139.29%	89.58%	69.13%
Female	Number of participants	25	75	14	7	121

Age limits		18-29	30-45	46-55	56-65	TOTAL
	% gender	20.67%	61.98%	11.57%	5.78%	100%
	% age	28.74%	37.31%	25.00%	14.58%	30.87%
Total	Number of participants	87	201	56	48	392
	% gender	22.19%	51.28%	14.29%	12.24%	100%
	% age	100%	100%	100%	100%	100%

Source: made by authors based on the results of the survey

Analyzing the data in the table it is possible to notice that the most numerous group of respondents are persons aged between 30 and 45 with a share of 51.28% of total respondents. The following most frequent group of respondents are 18 to 29 years of age with a share of 22.19% of the total population surveyed, followed by 46 to 55 year olds (14.29% of respondents). In the total sample, respondents at the age of 56 to 65 are at least represented. This population accounts for 12.24% of total respondents. In the total sample, 271 men and 121 women were interviewed. In all four age groups, more male respondents were interviewed than women. The highest percentage difference of respondents in relation to sex by age varies 6 times in favor of men for the age group 56 to 65 years of age.

According to the level of education, the highest number of surveyed students has a secondary education (43.83%). Followed by those with high school qualifications (28.94%) and higher education (24.26%). There are 2.97% of the respondents in the Master's or Ph.D. When asked about the amount of monthly income, the majority of respondents stated that they earned monthly 3,501 – 5,500 HRK (36.17%). 26.81% earns 5,501 – 7,500 HRK, and more than 7,500 HRK earns 19.15% of respondents. Up to 3,500 HRK earns 17.87% of respondents. Table 4 shows the number of respondents who have a life insurance policy.

Table 4. *Number of respondents with contracted life insurance*

Description	Participants with or without life insurance		Reasons for not contracting a life insurance policy			
	I have life insurance	I do not have life insurance	Lack of information	Inability to pay premiums	Uninterested for such an insurance type	Lack of trust in insurance companies
Number	181	211	55	98	43	15
%	46.17	53.83	26.07	46.45	20.38	7.10
Ranking	2	1	2	1	3	4

Source: made by authors based on the results of the survey

According to the data in the table it is possible to notice that as many as 54% of the respondents do not have a contracted life insurance policy, which is certainly defamatory for the insurance market. The main reason for the participants was the inability to pay the premium, although most of them earn a sufficient amount of monthly income within which it is possible to allocate money to pay the premium. However, it is interesting to note that 26% of respondents are not sufficiently informed of the life insurance offer, which suggests that insurance companies should undertake additional training for potential clients.

Given that a large number of respondents do not have a life insurance contract, on question whether the money is invested in another form of savings, respondents answered the following: 50.84% of them said they did not save, 24.02% had a classic form of savings in the bank, 18.44% money is kept at home (thinning), while only 6.7% is saved in the investment funds or the third pension pillar. According to the data obtained, it is possible to conclude that most respondents can not allocate enough money to save within their monthly income or have insufficient confidence in the banking system and therefore make money tense.

Out of the total number of respondents, 46% still have life insurance contracts, and as the main reason for settling the policy, they stated that it provides savings and family allowances in case of death. The amount of the life insurance premium and term for contracting is shown in Table 5.

Table 5 *Premium and deadline for contracting the Life Insurance Scheme*

Description	**Amount of monthly premium**				**Duration of payment**		
	Up to 150 HRK	**151 – 250 HRK**	**251-350 HRK**	**More than 350 HRK**	**5 - 10 years**	**11-20 years**	**21-30 years**
Number	15	113	21	32	11	155	15
%	8.29	62.43	11.60	17.68	6.08	85.63	8.29
Ranking	4	1	3	2	3	1	2

Source: made by authors based on the results of the survey

Based on the data in the table it is possible to notice that all respondents pay monthly life insurance premiums and that the highest percentages pay a monthly premium in the amount of 151-250 HRK. Although the premiums that are paid by respondents are exceptionally low, still, the largest number of people decide on the longer payment period (11-20 years). When asked about the insurance company's insurance policy, 35.16% of them trust Croatia d.d., while 21.17% have a policy in Allianz Zagreb d.d insurance company. Other recipients pay their premiums in other insurance companies, indicating that the two largest insurance companies in Croatia have the largest number of life insurance policies.

7. Conclusion

Life insurance can be defined as voluntary long-term savings that provide interested persons with a certain level of protection against financial losses that arise as a result of unforeseen events. In the Republic of Croatia, the life insurance market is developing with a slight intensity and it is not fully recovered in contrast to the developed countries of Europe. The results of the research on the Croatian citizens' interest in life insurance in Croatia indicate the following:

- most of the respondents do not have a life insurance contract, although according to HANFE data within the last five years the citizens' interest in this type of insurance increases, which is reflected in increased number of policies and premium growth,
- as the main reason for not contracting life insurance schemes, the respondents state the inability to pay the premium, and the lack of information or lack of interest in such a type of insurance, leading to the conclusion that citizens have not recognized the benefits of life insurance and that insurance companies must have additional education and information programs for potential beneficiaries of this insurance,
- investments in other forms of savings (banks, investment and pension funds) are also minimal, which points to the very low standard of living of our population,
- respondents who have a contracted life insurance policy, most often contract it as for savings and death insurance. In addition, they mostly pay minimum monthly premiums, and their trust is largely attributed to the largest insurers in Croatia.

REFERENCES

Andrijašević, S., Petranović, V. (1999): ***Ekonomika osiguranja***, Alfa, Zagreb

Klasić, K., Andrijanić, I. (2007): ***Osnove osiguranja: Načela i praksa,*** TEB – poslovno savjetovanje, Zagreb

Klasić, K., Andrijanić, I. (2002): ***Tehnika osiguranja i reosiguranja***, Mikrorad, Zagreb

Rafaj, J. (2009): ***Tržište osiguranja***, Hrvatska agencija za nadzor financijskih usluga, Zagreb

Vretenar Cobović, M. & Cobović, M. (2016): ***Sustainability of Pension Insurance System in Republic of Croatia***, in: Fifth International Conference: Economy of Eastern Croatia – vision and growth, Josip Juraj Strossmayer University in Osijek, Faculty of Economics in Osijek, June 2-4, 2016, pp. 840-848.

Zakon o osiguranju, Narodne novine, br. 30/15, https://www.zakon.hr/z/369/Zakon-o-osiguranju, (accessed 21 February 2018)

Hrvatska agencija za nadzor financijskih usluga, http://www.hanfa.hr/, (accessed 21 February 2018)

Hrvatski ured za osiguranje, https://www.huo.hr/, (accessed 21 February 2018)

Professor Gorka Vuletic
Faculty of Humanities and Social Sciences
Lorenza Jägera 9, 31000 Osijek
Phone: 031/211-400   Fax: 031/212-514
E-mail address: gvuletic@ffos.hr

Josipa Erdesi, Bacc.psych.
Faculty of Humanities and Social Sciences
Lorenza Jägera 9, 31000 Osijek
E-mail address: erdesi.josipa@gmail.com

GENDER DISPARITIES IN HUMAN AND SOCIAL CAPITAL IN EASTERN CROATIA

SPOLNE RAZLIKE U LJUDSKOM I DRUŠTVENOM KAPITALU U ISTOČNOJ HRVATSKOJ

ABSTRACT

It is believed that human and social capital are related, with human capital sometimes considered either as a subset or a partial basis of social capital. Both human and social capital are the foundation of society's wealth and growth. The aim of this study is to explore the gender differences in human and social capital indicators. Also, relationships between various indicators of human and social capital and subjective quality of life will be presented. Human capital indicators comprise various demographic data, while social capital indicators include variables such as social support, trust, and community cohesion. This research was conducted on a sample of 356 graduate students of J. J. Strossmayer University of Osijek. Results revealed statistically significant gender differences in human and social capital variables. Women tend to score higher on social capital measures in comparison to men. According to human capital indicators, the population of eastern Croatia is aging, and consequently, a negative growth rate is present for years. When it comes to education, there is a trend of more women obtaining higher education degrees, in opposition to the historical data. Furthermore, results indicate a significant connection between social capital and subjective well-being, although various social capital indicators correlate differently with subjective quality of life. Identifying aspects of social and human capital in relation to the quality of life will contribute to better understanding of the relationship between the economic, social and psychological characteristics of individuals and the whole population, which helps in the design of socio-economic strategies at the regional level.

Key words: *human capital, social capital, quality of life, gender differences.*

SAŽETAK

Smatra se kako su ljudski i društveni kapital višestruko povezani, pri čemu se ljudski kapital ponekad shvaća kao aspekt ili osnova društvenog kapitala. Ljudski i društveni kapital čine temelj bogatstva i rasta cjelokupnog društva. Cilj ovog istraživanja je istražiti spolne razlike u pokazateljima ljudskog i društvenog kapitala. Također, ispitat će se povezanost između različitih pokazatelja ljudskog i društvenog kapitala te subjektivne kvalitete života. Indikatori ljudskog kapitala obuhvaćaju različite demografske podatke, dok pokazatelji socijalnog kapitala uključuju varijable kao što su socijalna podrška, povjerenje i kohezija zajednice. Istraživanje je provedeno je *na uzorku od 356 studenata diplomskih studija Sveučilišta J. J. Strossmayer u Osijeku. Rezultati su otkrili postojanje statistički značajne razlike s obzirom na spol u varijablama ljudskog i društvenog kapitala. Pritom osobe ženskog spola postižu bolje rezultate na varijablama društvenog kapitala u odnosu na muškarce. Prema pokazateljima ljudskog kapitala, stanovništvo istočne Hrvatske generalno stari, a posljedično se javlja negativna stopa rasta koja je prisutna već godinama. Kada je u pitanju obrazovanje, primijećen je trend sve većeg broja osoba ženskog spola uključenih u sastavnice visokog obrazovanja, što je u suprotnosti s povijesnim podacima. Nadalje, rezultati ukazuju na značajnu povezanost između društvenog kapitala i subjektivnog blagostanja, iako različiti pokazatelji društvenog kapitala različito koreliraju s subjektivnom kvalitetom života. Utvrđivanje aspekata društvenog i ljudskog kapitala u odnosu na kvalitetu života pridonijet će boljem razumijevanju odnosa između gospodarskih, socijalnih i psiholoških osobina pojedinaca i cjelokupne populacije što pomaže pri stvaranju društveno-ekonomskih strategija na regionalnoj razini.*

Ključne riječi: *ljudski kapital, društveni kapital, kvaliteta života, spolne razlike.*

1. Introduction

One of the most important aspect of the global society is its capital, which has various forms, such as physical capital, natural resources, human and social capital. They all are necessary in order to provide the prerequisites to maintain the growth of a society (Parts, 2003). It is highly important to define human and social capital in order to understand the difference and interaction between them. Different terms have been used previously in attempts to depict human and social capital. Moreover, some authors believe human and social capital represent the same concept, due to the close relationship between them and lack of agreement between the experts regarding their definitions. Although there is a very tight connection between human and social capital, they include different indicators: for example, human capital refers to knowledge, skills, competencies and personality attributes (OECD, 2007), which indirectly lead to the production of something that is considered to be highly valued and that contributes to the economy of a country (Schultz, 1961). On the other hand, social capital includes all the resources that individuals access through their networks. Social capital indicators encompass trust of others, community cohesion, mutual assistance between neighbors, voluntary work and group membership. Moreover, social capital indicator could be even voting participation (Fujiwara & Kawachi, 2008).

1.1. Human and social capital

Human capital comprises the stock of competencies, knowledge, habits, social and personality attributes, including creativity, cognitive abilities, embodied in the ability to perform labor so as to produce economic value in the society (Vuletic et al. 2017). Years of formal education is one of common human capital indicators. A number of studies have documented lower levels of schooling or formal education in developing countries among females compared with males. As stated by World Economic Forum, the development and deployment of human capital is a critical element of economic growth and social inclusion in all countries (2016). Human capital can be considered as a prerequisite for highly developed social capital, and vice versa: social capital contributes to and promotes the development of future human capital. While different definitions may accentuate different aspects of social capital, what is clear is that social capital represents a multidimensional construct which emphasizes the importance of human networks and connectedness and tends to improve numerous aspects of the society. Moreover, it is increasingly well recognized that social capital is an important aspect of building and maintaining collective action (Westermann, Ashby and Pretty, 2005). There are three broad categories in which all indicators related to social capital can align: social networks, social norms and social trust (Portela et al., 2013). As already mentioned, various human capital indicators correlate positively with social capital indicators. Still, relationship multiformity was found, which tells us that some aspects of human capital have a weaker correlation with certain social capital variables, while other aspects, such as education, represent a strong predictor of social capital (Scheffler et al., 2010). Even though the human capital variables are well recognized and frequently used in different purposes, social capital has been neglected for a long time (Imandoust, 2011). However, in recent years there are more and more discussions regarding social capital indicators and their application in research.

1.2. Quality of life

Based on the previous research, both human and social capital tend to correlate positively with subjective quality of life (Portela et al., 2013). World Health Organization (1999; Vuletić and Misajon, 2011) defined quality of life as an individual's perception of standing in a specific cultural, social and environmental context. Somebody's perception of life quality cannot be understand separately from social environment. Subjective quality of life includes life satisfaction, which represents cognitive, long-term aspect, whereas happiness refers to emotional, short-term aspect of quality of life (Yang & Srinivasan, 2016). It is important to emphasize the importance of subjective perception for quality of life. Prior research suggest that self-report represents more useful and precise quality of life indicator, when compared to objective indicators, such as income. For that reason, different self-report measures have been developed and frequently used in order to obtain the highly useful information regarding one's subjective quality of life (Williams & Wood-Dauphinee, 1989).

A normative standard for life satisfaction of western population was determined, based on research conducted by Cummins (1995; Cummins & Nistico, 2001) which could be defined between the range of 70–80% SM. Moreover, Cummins (1998; Cummins & Nistico, 2001) conducted another research, in which he included 44 countries worldwide. Results revealed that life satisfaction of participants from the following research lies range of 60–80%SM which was considered as a normative range for the World populations.

1.3. Gender differences in human and social capital

Although little is known about the nature of gender differences related to social capital (Krishna, 2000; Westermann, Ashby and Pretty, 2005), research suggest that women generally tend to achieve more social capital than men. More than that, social capital has been often described as women's capital, especially when taken into account that there were numerous obstacles for women to access economic capital. For that reason, women's role in family and community provides them with strong networks (Moser, 1998; Kofman et al., 2005). Nonetheless, social capital indicators are heterogenous and broadly defined, and for that reason, various unclear or contrary findings were discovered.

For example, study by Westermann, Ashby and Pretty (2005) revealed that women are more likely to build more social capital that refers to relations in comparison to men. Relational social capital includes informal social relations and networks which are based on norms of collaboration and conflict management. It is believed that the reason for this finding is that women appreciate more collaboration, altruism and conflict resolution. On the other hand, in another study it was found that men are more effective in achieving different types of social capital than women (Van Emmerik, 2006). It is important to note that direct comparisons cannot be conducted due to the differences in operalization of social capital indicators.

2. Aim of the study

The aim of this study is to explore gender differences in human capital, social capital and subjective quality of life among graduate students.

3. Participants and procedure

The study comprises 356 participants. There were 156 male and 200 female participants, aged from 22 to 42 years (M=24.47, SD=2.312). All participants are attending Josip Juraj Strossmayer University of Osijek. Presented research was a part of a larger project: "Role of the subjective quality of life in young people intention for regional or international emigration" founded by Josip Juraj Strossmayer University of Osijek. For this specific part of the study, the following measures were used: socio-demographic questionnaire, set of questions regarding social capital, constructed for the purpose of this study Personal Wellbeing Index (International Wellbeing Group, 2013). Based on theoretical background, social capital is defined through three features of social life: networks, norms, and trust in defying social capital. Personal wellbeing index (PWI) was calculated as a mean score across seven domains and it represent satisfaction with life what was the measure of subjective quality of life. The scores were presented in a form percentage of scale maximum (%SM) where higher score represent higher satisfaction with life. Data on human capital such as Croatian and County population, age and education level were collected from Croatian Bureau of Statistics, official census data and reports.

4. Results

Human capital

There has been a steady decrease in the size of the population in Croatia (approx. 1.5% from 2012 to 2015), and also specifically in the East Croatia regions which faces with alarming number of young people who emigrate to developed countries.

Table 1 *Net emigration from Eastern Croatia Counties*

Županija	Emigration total number					
	2011	2012	2013	2014	2015	2016
POŽEŠKO-SLAVONSKA ŽUPANIJA	1.989	1.983	1.778	2.313	2.951	2.982
BRODSKO-POSAVSKA ŽUPANIJA	2.960	2.838	3.649	4.078	4.511	5.165
OSJEČKO-BARANJSKA ŽUPANIJA	5.547	5.545	6.183	7.260	7.832	9.226
VUKOVARSKO-SRIJEMSKA ŽUPANIJA	3.950	3.429	4.327	5.379	5.671	6.346

Source: Authors' excerpt based on Croatian bureau of statistics data base 2018.

Net emigration from Eastern Croatia still increasing and positive trend is obvious. This was based on available data from Croatian bureau of statistics web site data base. It is hypothesized that real numbers are even higher. At the same time negative natural growth was present for years. All together population (i.e. human capital) of Eastern Croatia decreasing rapidly. According to education level, which is one of important indicator of human capital in one society, younger women dominate among people with higher education these days, compared to historical data when men predominate in higher education level population group. In 2016, which was last published summary data by Croatian bureau of statistics, more women than men acquired higher education degree in all Eastern Croatia Counties.

Social capital

Table 2 *Descriptive statistics for the measures of social support and personal contact, together with significance of difference between groups*

		Male					Female					
		M	**SD**	**C**	**Min**	**Max**	**M**	**SD**	**C**	**Min**	**Max**	**t-test (p)**
Social support	**Family**	4.50	.848	5	1	5	4.51	.857	5	1	5	-.090 (.928)
	Friends	4.25	.784	4	1	5	4.49	.687	5	3	5	-3.07** (.002)
	Neighbor	2.63	1.228	3	1	5	2.50	1.139	3	1	5	.998

		Male					Female					
		M	SD	C	Min	Max	M	SD	C	Min	Max	t-test (p)
												(.319)
Personal contact with:	**Family**	4.14	.946	4	1	5	4.67	.643	5	2	5	-6.23 ** (.000)
	Friends	4.37	.731	4	2	5	4.54	.648	5	2	5	-2.260* (.024)
	Neighbor	2.70	1.009	3	1	5	2.75	1.036	3	1	5	-.486 (.628)

Legend: M – arithmetic mean, SD - standard deviation, C - central value/median, Min – minimum result, Max – maximum result

Source: Authors' research

Considering that maximal support was answer 5 and 1 is minimal it is obvious that perceived support from family and friends are high. Results revealed statistically significant gender difference in social support related to friends. Women perceive support from their friends to be higher, comparing to men. Also, significant difference was found related to personal contact with family and friends. Again, women tend to contact with their family and friends more often than men, although both groups reported quite frequent contacts with family, and with friends as well (answer 5 = almost every day).

Table 3 *Frequency of results on social capital variables and significance of difference between groups*

Variable		Male	Female	
		N (%)	N (%)	χ^2 (p)
If you need help, is there anyone you could rely on (excluding your family members)?	**Yes**	150 (97.4%)	190 (95.0%)	1.322 (.285)
	No	4 (2.6%)	10 (5.0%)	
Have you offered your help to anyone in last month?	**Yes**	135 (88.2%)	160 (80.0%)	6.870 (.076)
	No	18 (11.8%)	40 (20.0%)	

Source: Authors' research

When asked if they have a person who they could rely on if they need help, most of the participants reported that they do have. Slightly smaller number, but still more than 80.0% of the participants reported that they also have helped someone during last month. Nevertheless, no gender differences were found related to those questions.

Table 4 *Descriptive statistics for the social capital variables and significance of difference between groups*

	Male					Female					
	M	SD	C	Min	Max	M	SD	C	Min	Max	t-test (p)
Number of close friends	4.83	4.133	4	0	43	4.20	2.086	4	1	15	1.87 (.062)
Do you discuss your personal issues with your friends?	3.94	7.830	3	1	5	4.03	1.096	4	2	5	-6.98** (.000)
Frequency of meeting friends in public place	13.43	13.33	10	0	100	10.25	8.039	10	0	50	2.75** (.006)
Sense of community in Osijek	3.06	.792	3	1	5	3.24	.801	3	1	5	-2.16* (.032)
People perceived as helpful and unselfish	3.21	2.010	3	1	5	2.66	1.029	2	1	5	3.82** (.000)
Trust in people	2.93	.981	3	1	5	3.39	.836	3	1	5	-4.77** (.000)

Legend: M – arithmetic mean, SD - standard deviation, C - central value/median, Min – minimum result, Max – maximum result

Source: Authors' research

Table 2 presents results on various social capital variables. According to the table, no gender differences were found in number of close friends. However, other social capital measures are statistically significant. As expected, there is significant gender difference in discussing personal issues with friends, where women tend to discuss their personal issues with their friends more frequently than men. Also, results suggest that women perceive the sense of community in Osijek to be higher than men. Significant gender difference was found in trust in people. Women report to have more trust in people, comparing to men. On the other hand, results indicate that men meet their friends in public places more frequently than women. Furthermore, there is statistically significant difference in perception of people as helpful and unselfish. Men are more likely to perceive other people to be helpful and unselfish, when compared to women.

Quality of life

Table 5 shows results on Personal wellbeing index and satisfaction with life across seven domains. Although there is no gender difference in total score on PWI, gender difference in six out of seven PWI domains are shown to be statistically significant. These domains are Standard of living, Health, Life achievement, Personal relationships, Personal safety and Future security. Based on the results, men are more likely to score higher results on PWI domains, comparing to women, which means that they tend to more satisfied with different aspects of life. There is no significant difference in satisfaction with life between men and women.

Table 5 *Descriptive statistics for PWI and satisfaction with life, together with significance of difference between groups*

	Gender						
	Male			Female			
	M	SD	C	M	SD	C	t-test (p)
Personal Wellbeing Index	69,92	18,15	71,43	60,79	19,89	64,29	4.46** (.000)
Standard of living	64,49	22,30	70,00	59,30	25,25	70,00	2.02* (.044)
Health	72,05	26,29	80,00	58,90	32,74	70,00	4.09** (.000)
Life achievement	74,81	19,76	80,00	66,00	27,07	80,00	3.42** (.001)
Personal relationships	76,86	24,30	80,00	62,15	32,87	80,00	4.68** (.000)
Personal safety	71,09	26,73	80,00	63,20	29,45	70,00	2.61** (.009)
Community-connectedness	67,76	28,95	80,00	63,20	28,17	70,00	1.50 (.136)
Future security	62,37	28,13	70,00	52,80	28,02	60,00	3.19** (.002)
Satisfaction with life in general	71,75	23,68	80,00	68,24	24,11	80,00	1.37 (.172)

Legend: PWI – Personal wellbeing index, M – arithmetic mean, SD - standard deviation, C - central value/median

Source: Authors' research

Discussion

The purpose of this study was to examine are there gender differences in human capital, social capital and subjective quality of life among graduate students from Josip Juraj Strossmayer University of Osijek.

Human capital indicators of Eastern Croatia shows systematic decline in total population. Previous researches and demographic statistic already indicate ageing of the population when women are prevalent in old age groups (Vuletic et al. 2017). According to education level, as one of the important indicator of human capital in one society, in population with higher education under 55 years, women are more prevalent than men. But in population aged 55+ women are more present in

the low education groups (8 years of education and less). In summary, gender difference in education level was present but in different direction in different age groups.
Social capital measures did not reveal systematic gender differences in woman favor. Although no gender differences were found in number of close friends, women reported more engagement in discussing personal issues with friends what was one of the social support resource, which was important to personal quality of life. Women perceive higher sense of the community in Osijek and have more trust in people, comparing to men, which can be explained by women higher orientation to the community i.e. collective. On the other hand, men are more likely to perceive other people to be helpful and unselfish, compared to opinion given by women. This results are valuable for regional social and economic policy planning because social capital is coming to be seen as a vital ingredient in economic development around the world. Previous research suggests that social capital has beneficial effects on many aspects of the community and creates a cohesive society. Given its great influence on the subjective quality of life, it can be said that it is one of the key factors that affect the satisfaction of the life of individuals in a particular community. In our research, men tend to have higher overall subjective quality of life, and satisfaction with different life domains, comparing to women. Noticeable difference was found for health and future security domain. International research revealed that individual subjective quality of life is higher in those communities that report on higher social capital (Putnam, 1993) so fostering development of social capital in one society will bring wider benefits, like better quality of life of the population which consequently brings socioeconomic benefits to the whole society.
Considering that the sample of this study was limited to graduate students and recently graduated young, high educated people, results can be interpreted only for that subpopulation group. More research is needed in order to understand far more about the underlying mechanisms of gender differences in both human and social capital and their implications for social equality and community life. Identifying aspects of social and human capital in relation to the quality of life will contribute to better understanding of the relationship between the economic, social and psychological characteristics of individuals and the whole population, which helps in the design of socio-economic strategies at the regional level.

REFERENCES

Cummins, R. A., & Nistico, H. (2002): ***Maintaining life satisfaction: The role of positive cognitive bias,*** Journal of Happiness studies, Vol. 3, No. 1, pp. 37-69.

Fujiwara, T. & Kawachi, I. (2008): ***A prospective study of individual-level social capital and major depression in the United States***, Journal of Epidemiology & Community Health, Vol. 62, No. 7, pp. 627-633.

Imandoust, S. B. (2011): ***Relationship between education and social capital***, International Journal of Humanities and Social Science, Vol. 1, No. 12, pp. 52-57.

International Wellbeing Group (2013): ***Personal Wellbeing Index: 5th Edition***, Australian Centre on Quality of Life, Deakin University, Melbourne.

Kofman, E., Phizacklea, A., Raghuram, P., & Sales, R. (2005): ***Gender and international migration in Europe: Employment, welfare and politics***, Routledge.

Parts, E. (2003): ***Interrelationship between human capital and social capital: implication for economic development in transition economy***, Tartu University Press.

Portela, M., Neira, I., & del Mar Salinas-Jiménez, M. (2013): ***Social capital and subjective wellbeing in Europe: A new approach on social capital,*** Social Indicators Research, Vol. 114, No. 2, pp. 493-511.

Putnam, R.D. (1993): ***The Prosperous Community***. The American Prospect, vol. 4 no. 13.

Scheffler, R. M., Petris, N. C., Borgonovi, F., Brown, T. T., Petris, N. C., Sassi, F., Dourgnon, P., & Sirven, N. (2010): ***Social capital, human capital and health: What is the evidence?***, OECD Centre for Education Research and Innovation (CERI).

Schultz, T. W. (1961): ***Investment in Human Capital***, American Economic Review, Vol. 51, pp.1-17.

Van Emmerik, I. H. (2006): ***Gender differences in the creation of different types of social capital: A multilevel study***. Social networks, Vol. 28, No. 1, pp. 24-37.

Vuletic, G., Erdesi, J. & Misajon, R. (2017): ***The relation of human and social capital with quality of life and emigration intention among young professionals***, In: A. Mašek Tonković (Ur.), Zbornik radova 6. međunarodnog znanstvenog simpozija "Gospodarstvo istočne Hrvatske – vizija i razvoj" (pp. 442-452). Osijek: Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku.

Westermann, O., Ashby, J., & Pretty, J. (2005): ***Gender and social capital: The importance of gender differences for the maturity and effectiveness of natural resource management groups,*** World Development, Vol. 33, No. 11, pp. 1783-1799.

Williams, J. I., & Wood-Dauphinee, S. (1989): ***Assessing quality of life: measures and utility,*** In Quality of life and technology assessment (pp. 65-115). National Academy Press, Washington, DC.

World economic forum (2016): ***The Global Gender Gap Report 2016***. Cologny/Geneva, Switzerland.

Yang, C. & Srinivasan, P. (2016): ***Life satisfaction and the pursuit of happiness on Twitter***. PloS one, Vol. 11, No. 3, p.e0150881.

Asst. Prof. Ivica Zdrilić, PhD
Department of Economics, University of Zadar
Splitska 1, HR - 23000 Zadar, Croatia
Tel. +385 23 400 406;
E-mail address: izdrilic@unizd.hr

Milan Puvača, PhD
Ofir Ltd.
Ramska 20, HR - 31000 Osijek, Croatia
Tel: +385 31 273 236;
E-mail address: milan@ofir.hr

Asst. Prof. Mladen Rajko, PhD
Department of Economics, University of Zadar
Splitska 1, HR - 23000 Zadar, Croatia
Tel. +385 23 400 406;
E-mail address: mrajko@unizd.hr

HIGHER EDUCATION INSTITUTIONS IN CROATIA E-LEARNING STRATEGIES

STRATEGIJE E-UČENJA NA USTANOVAMA VISOKOG OBRAZOVANJA U HRVATSKOJ

ABSTRACT

Education institutions in world today, especially in the domestic environment of the Republic of Croatia, are situated in an extremely dynamic environment of curriculum changes, educational programs and outcomes that their final student product - potential employee must have. The strategy of education institutions, especially higher education, may be more important than ever because of the above mentioned impacts, but also due to the growing foreign competition in the field of education. A large number of papers have been written on the importance of introducing e-learning into higher education systems, however insufficient attention has been devoted to the strategies and plans for implementation and realization of electronic learning systems. The neglect of the plan to apply modern methods of education can cause long-term major challenges in their realization.
Similarly, many direct and indirect variables affect the operations of modern companies, which an entity must successfully balance to achieve optimum management. Every company is inevitably obliged to define its own strategy when trying to predict trends in business, rises and downfalls, but also pursue the desired mission or vision of a company. It is quite clear that the plan, strategy, and then realization are extremely important in both of these environments. Therefore, the principal objective is to identify which elements of business strategy development are adequate in the preparation of strategic documents for e-learning in higher education.
In this paper, authors have endeavoured to link the theoretical concept of strategic planning and decision making to practical implementation of e-learning system. The research at the level of Croatian higher education institutions will include a review of the existence of such strategies, their analysis elaboration and their potential developmenttoo. Likewise, depending on the options, a comparison of similar strategies in the EU and the world will be made. As a desired final result, a

survey of the current state of the e-learning strategy as well as guidelines for the better preparation of such materials will bepresented.

Key words: *e-learning strategy, education quality, planning, student-oriented learning.*

SAŽETAK

Obrazovne institucije današnjice, posebno u domaćem okruženju Republike Hrvatske, nalaze se u iznimno dinamičnom okruženju promjena kurikuluma, obrazovnih programa i ishoda koje njihov konačni proizvod student – potencijalni zaposlenik mora imati. Strategija obrazovnih institucija, posebice visokog obrazovanja možda je bitnija no inače upravo zbog navedenih utjecaja, ali i sve jače inozemne konkurencije u području obrazovanja. Velika količina radova napisana je na temu važnosti uvođenja e-učenja u visokoobrazovne sustave, no nedovoljno pažnje posvećeno je strategijama i planovima implementacije i realizacije sustava za elektroničko učenje. Zapostavljanje plana primjene suvremenih metoda obrazovanja može uzrokovati dugoročne velike izazove u njihovoj realizaciji.

Jednako tako, na poslovanje suvremenog poduzeća utječu brojne direktne i indirektne varijable koje subjekt mora uspješno balansirati s ciljem optimalnog poslovanja. Pokušavajući predvidjeti trendove posla, uspone i padove, ali i željenu misiju odnosno viziju poduzeća tvrtka je neminovno obvezna definirati vlastitu strategiju. Jasno je kako su plan, strategija, a zatim i realizacija iznimno bitni u oba navedena okruženja. Za ustanoviti je koji elementi izrade poslovnih strategija mogu odgovarati u pripremi strateških dokumenata za e-učenje u visokom obrazovanju.

U radu, autori žele povezati teorijski koncept važnosti strateškog planiranja i odlučivanja s praktičnom implementacijom sustava za e-učenje.Istraživanje na razini hrvatskih visokoobrazovanih institucija uključit će pregled samog postojanja takvih strategija, analizu njihove razrađenosti, ali i potencijalne izvedbe. Također, ovisno o mogućnosti, izvršit će se komparacija sličnih strategija u EU i svijetu. Kao željeni konačni rezultat postavlja se snimak postojećeg stanja na području strategija e-learninga kao i smjernice za što kvalitetniju pripremu takvih materijala.

Ključne riječi: *strategija e-učenja, kvalitetaobrazovanja, planiranje, učenje usmjereno prema studentu.*

1. Introduction

The challenges posed to education today are intertwined with the dynamic global trends of modern society, and focusing young people in jobs of the future whichstill do not existtoday has become a feature that education institutions will appreciate only in the upcoming years.By using available information communication technology, students become better informed, facts more accessible than ever, and the role of the teacher ceased to be ex-cathedra lecturer long since.

It is very clear that, on the other hand, companies are operating in even more demanding conditions, and their potential employees need to have an increasing and prominent set of skills and knowledge to respond faster to all requests. The education sector can hardly be disassociated from the business one, and vice versa, although a discrepancy in requirements, opportunities and realized goals often occurs.

Most assuredly, ICT is the basis for faster acquisition of knowledge, wider access to information, but also better association with the real sector. E-Learning systems have become key platforms for education institutions, corporations and government bodies (Yilmaz, 2017). However, there are numerous influences on the level of acceptance and use of such tools, especially in the education sector. According to some authors, the general level of use of Web 2.0 tools in everyday life can have a high impact on the application of e-learning tools (Del Barrio-García, 2015), while other research emphasise the importance of a holistic approach and understanding of the importance of e-learning for all actors in the teaching process (students, professors, staff and the environment (Puvača, 2013). Electronic learning systems have been known and developed long enough, and given their obvious advantages, they have become an integral part of the strategic documents of education institutions. Even since the beginning of 2000, the European Union has been developing documents such as *The e-Learning Action Plan* (COMMUNITIES, 2001), where e-learning represents the obligatory foundation for education and its development as the core idea of applying technology. Various projects and joint performances have inspired the adaptation of strategies towards electronic learning precisely, and in 2015, research have displayed high adoption of such documents at European universities (European University Association, 2015) with still considerable number of challenges they face. Some universities have surrendered the planning and the application of new educational methods to choice of the faculties themselves, which has additionally encumbered their already modest financial budgets.

In October 2014, the Croatian Parliament adopted the final version of the Education, Science and Technology Strategy in the domestic frameworks on strategic documents in education, which "... envisages measures for the development and dissemination of e-learning" (Croatian Parliament, 2014).With the same document, CARNet[1]has been further described as an institution providing information and infrastructure support for e-learning, as well as an educational content management system and videoconferencing system. A similar document was adopted as the e-Croatia Strategy 2020 (Ministry of Administration, 2015),which focusede-learning in the structureof all e-services the government planned to provide to citizens in the upcoming period. Interestingly, e-learning is not mentioned in this case only in the context of formal education, but also education of officials (like Customs) or integrated learning area for all employees in public administration.

Given the above-mentioned trends, guidelines, as well as the legislative framework, the purpose of the paper is to explore the state of the e-learning strategy at higher education institutions in the Republic of Croatia. The aim of this paper is to determine whether there is a strategy in a particular institution, if it is integrated into the general plan of work or the broader strategy of an institution and how it is implemented and evaluated.

2. Strategic Framework for Higher Education Institutions

When considered in the business system context, the strategy must be implemented not only to make progress, but simply to survive in a business environment where competition is getting bigger and harsher every year. Implementing a strategy and finding ways to introduce it favourably throughout the organization significantly improves both financial and overall business results (Zdrilić, 2013, p. 66).

According to Harding&Rovit (2007, p.55), high-efficiency companies understand the underlying foundation of competitiveness within their core business and are strongly focused on their advantages. They direct their activities to achieving full market share and potential for profit before venturing into something new.

Higher education represents an important driving force for social change. Since the business world and the higher institutions are dissimilar in the profile of business operations, it is necessary to

[1] CARNET – Croatian Academic and Research Network, https://www.carnet.hr/

define the starting point of higher education in a different way. Therefore, the document of the **Strategy for Education of Science and Technology** adopted by the Croatian Parliament in 2014 and published in the Official Gazette 124/2014 (Croatian Parliament, 2014) defines **the mission** of the Croatian education system according to which *it is necessary to ensure the quality education available to everyone under equal conditions, in accordance with the capabilities of each system user. The mission of the Croatian scientific system is to improve the overall world knowledge base through research and contribute to the prosperity of Croatian society, especially the economy.* ***The vision*** *on which this Strategy rests is a Croatian society in which quality education has an important impact on each life of an individual, on relations in society and on the development of the economy. Henceforth, the Croatian society will be democratic, tolerant and innovative, and the personality of every individual will be able to achieve the full expression. The economy will be largely based on advanced technologies that acknowledge high added value, and highly educated individuals will be able to find the right job.*

The goal of the Strategy, when it comes to higher education, is to make the study accessible to everyone, in accordance with individual abilities and social needs (Croatian Parliament, 2014).

In the above-mentioned strategy (Croatian Parliament, 2014) five objectives for the whole vertical of education and training have been recognized and determined, regardless of whether it concerns formal or informal teaching methods, namely:

- build a system for identifying, stimulating, developing the capabilities and potential of individuals and strengthening services for lifelong personal and professional guidance,
- improve quality and establish a quality assurance system,
- develop the processes and system of recognition of acquired formal and informal knowledge and skills,
- improve the system of permanent professional development and profiling of educational staff,
- encourage the application of information and communication technology in learning and education.

The role and importance of the teacher as a mentor, coordinator and instructor of the educational process increases together with the last fifth objective that refers to the implementation of ICT in learning and education. In addition, the Strategy (Croatian Parliament, 2014) concluded that e-learning positionedthe applicant in the centre of the educational process, assuming an active role and responsibility for the results of education, i.e. that it was necessary to establish systematic care for collecting, safeguarding and ensuring the continued availability of data, educational content and teaching aids.

This paper focuses on the analysis of the extent to which the Higher Education Institutions in Croatia have gone in the implementation of the fifth objective.

3. Research Methodology

Trying to encompassas many education institutions in Croatia as possible which are directly responsible for implementation ofthe education system digitalization, we have selected the institutions with university status. The underlying assumption was that the university as a particular umbrella organization directed its own components at least (faculties/departments) according to a common strategic document of development where e-learning is one of the elements.

Table 1 *Examined Education Institutions in the Republic of Croatia*

University of Dubrovnik	University of Zadar
Josip JurajStrossmayer University of Osijek	University of Zagreb
JurajDobrila University of Pula	DIU Libertas[2]
University of Rijeka	Croatian Catholic University
Sjever(North) University	VERN[3] Polytechnic
University of Split	
TOTAL: 11 institutions	

Source: Authors of the paper

The planned methodology involved three levels of available information verification or establishing contact with planned issues respectively:

1. Verification of the educational institution web site:
    a. A survey of available institution strategy information,
    b. A survey of the e-Learning system implementation strategy available information,
    c. Other ICT level use in education supporting information.
2. Search for additional papers/analysis/publication in other sources using:
    a. Google browser[4],
    b. Google Knowledge DatabaseScholar[5].
3. Contact with the educational institution with a closed three questions set:
    a. Does your institution have a special e-learning strategy or is the same part of the comprehensive strategy?
    b. To what extent have you accomplishedso far the e-learning implementation which is contained in the strategy/strategies?
    c. Do you also performand in what way theevaluation ofe-Learning system implementation success?

Taking into account the brevity of terms and the burden on the services that the author believes might be in charge of providing these answers, the questions were deliberately proposed as short and concise as possible. It will be mentioned to assist authors in the basic analysis of the current state of e-learning strategy or respectively the measures that the University uses to ensure the better

[2]According tohttp://www.libertas.hr/, although lacking the university title - *Libertas*International Universityis the oldest private university in Croatia. There are four faculties and business school in the university structure.
[3]According to http://www.vern.hr/novosti/vern-postaje-sveuciliste, this institution is being transformed into a university and hence includedin the list of the examinees.
[4]https://www.google.hr, accessed 01.03.2018.
[5]https://scholar.google.hr/schhp?hl=hr&as_sdt=0,5, accessed 14.03.2018.

conditions of applied electronic learning. The memo also makes an observation on the point on collective processing and presentation of the results and not listing the specific names of the universities during the presentation of the paper.

The research was conducted in February and March 2018 in two iterations. For the first two levels of information testing, the iteration served in the case of renewal or supplementation of the web pages content, while the third level or written contact respectively was used by two iterations as a reminder to non-responding institutions. Education institutionswere contacted via e-mail at publicly available addresses on the web site (Dean's office or right to access data officer).

4. Research Analysis

The underlying assumption that has been repeatedly confirmed in the papers of various authors is that domestic universities have fully recognized the importance of e-learning and included it in their work plans and guidance for teaching staff. Taking into account the increasing number of online and offline lectures on the successful application of information communication technology in education, the widest possible number of actors in the educational process was included as expected in the practical application of this learning method.

After two e-mail iterations the authors have received five direct responses, which make 45.45% of the return. All responses to queries except one arrived in the first iteration, while the secondarrived after the sent reminder. It is extremely challenging and tedious to group responses in a singular way, so authors have decided to describe the chosen answers correlating them with other institutions.

Almost all examined universities (81%) have their institution strategy and it is publicly available on the web pages. At two universities the strategy was not updated or refers to the previous period (e.g.by 2015). All reviewed institutions and their strategies were significantly dedicated to e-learning objectives such as geographic independence, availability of information, speed, transparency and modernization of education in general. Most of the subjects surveyed in the strategies did not explicitly provide the implementation methods, but generally summarized the needs and possibilities of digital teaching materials or respectively the content development and reliance on CARNet Supporting Institution.

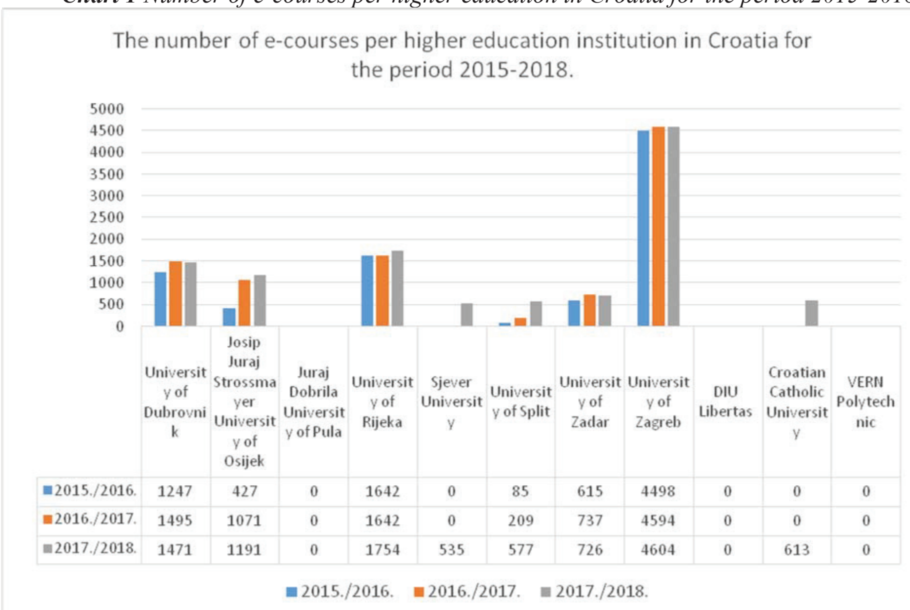
None of the eleven researched institutions have developed a specific strategy for e-learning implementation. The main argument for its non-existence was the involvement of the same in the overall strategy of the university. Interestingly, for two institutions it is yet possible to find the paperson the structure of Google Scholar, referring to the future creation of such documents. Still, it is possible to find earlier versions of e-learning strategies for two other institutions. It pertains to the previous period of 2010 and 2015, where the guidelines were establishedand imbedded in the strategies either independently or within a broader project. Although this document is time-restrictedand relatively concise, it shows well how such a strategy should resemble. Its content encompasses a wide range of elements,from the detail structure of the notion latitude, through mission and vision, to the implementation steps and the method of their evaluation.

All surveyed institutions or respectively those ones which sent feedback referred to the method of the e-Learning system implementation level verification. It pertains tothe platform of the SRCE[6]which on the web link http://katalog-e-kolegija.srce.hr/ encompasses all e-courses provided by the higher education institutions in the Republic of Croatia. "The Catalogue is currently supplied with e-collections data from the academic year of 2014/2015 to date" (SRCE, 2018). Itis proposed

[6]http://www.srce.unizg.hr, accessed 15.03.2018.

that institutions provide every year their own reports on the implementation of e-learning courses that are included in the catalogue. In the case of non-compliance with these guidelines, the records shall reflectzeros for all the courses implementation, which may provide an incomplete picture[7]. All Croatian institutions of higher education are listed in the catalogue, while for the purposes of summarized presentation the examined institutions have been separated.

Chart 1 *Number of e-courses per higher education in Croatia for the period 2015-2018*



	University of Dubrovnik	Josip Juraj Strossmayer University of Osijek	Juraj Dobrila University of Pula	University of Rijeka	Sjever University	University of Split	University of Zadar	University of Zagreb	DIU Libertas	Croatian Catholic University	VERN Polytechnic
2015./2016.	1247	427	0	1642	0	85	615	4498	0	0	0
2016./2017.	1495	1071	0	1642	0	209	737	4594	0	0	0
2017./2018.	1471	1191	0	1754	535	577	726	4604	0	613	0

Source: Authors of the paper

Asignificant positive shift is clearly seen in almost all higher education institutions regarding the number of e-courses. It is expected that thebigger universities are leading in their numberwith fewer percentage shifts over the years. On the other hand, the fact that even smaller institutions like the University of Dubrovnik still keep pace and provide a very positive example in the e-education segment is highly welcomed. We are talking about almost 25% of increase in the total number of digital courses of researched institutions in the period from 2015 to 2018. To conclude, this increase goes hand in hand with world trends where 98% of higher education institutions witnessed increased demand for e-collegiums and digital content (BestColleges.com, 2017).

The logical question of their qualitative definition arises from the reviewed materials and reports on the number of e-learning courses. Some courses have several documents and presentations required for teaching, while others are quite developed in terms of supporting content, online exams, forums, active discussions or external content that can be found on the e-learning environment. It is to be assumed that some kind of qualitative survey of this education method will have to be implemented in the near future to ensure the quality standards that a modern student demands. Equally to the

[7]A simple catalogue search shall identify certain institutions listed as non-performing e-courses. Still,the web site analysis of those polytechnics shall reveal that they possess proper e-learning systems, somewhat completely or partially opened to public scrutiny.

function that can track the student's dynamics on an online course (such as the activity log or required login to access the content), it is also possible to establish methods of qualitative e-learning verification in relation to the number of materials, the quantity of links, quiz passes results or cognitive testing and so on. Research in this direction exists, such as Quality Assurance of E-learning (JosepGrifoll, 2010) or European Quality Assurance Institutions in Higher Education[8], but guidelines must certainly be shaped according to the volume, program and desired outcomes that the university envisages in the next time period.

5. Conclusion

It is clear that electronic learning, digital teaching materials and geographic and time-independent education have become the everyday life of all of the education vertical institutions. Students accustomed to information communication technology require more, faster and betterknowledge, and thus want to provide the best possible starting position in the labour market. Even thou itcannotbe saidonly today, the question is only when the letter "e" will be discarded from e-learning. It will be implicit and completely implemented in student-oriented everyday learning.

The labour market precisely or the global business market is the ideal "polygon" from which the educational sector can acquire dynamic elements and adapt them to itsrequisites in order to capture better the trend of modern business. The elements of strategy presented in the paper are one of those examples where the academy and the business have to work together.

A high-quality information and communication infrastructure is a prerequisite for the functioning of higher education institutions at all levels, from technical-administrative to teaching one.

The results of the conducted research showed positive trends of domestic universities regarding the application of e-education in teaching. Regardless of size, it is clear that technology has become integral part of most of the courses, but still there is always room for improvement. Primarily, there is a clearer and better methodology for monitoring e-learning actuation and more transparent or additionallyassessed available content. Some "smaller" universities do not lag behind the "big" universities in Croatia at all, which is certainly a commendation. Should we howeverbe talking about full digitalization of the university, this is only a primary step. Opening up to additional potential stakeholders such as the previous educational verticals or the business sector is extremely important the next step that will be added value of the educational institution once it is recognized.

As a further research problem and the foundation for new papers, a standardized methodology for evaluating digital content and their effectiveness is imposed. It would also provide a better insight into the means, scope and activities that institutions carry out,all in order to improve the market positioning they would like to achieve/provide to all young professionals of tomorrow.

REFERENCES

BestColleges.com. (2017). *2017 Online Education Trends Report.*

COMMUNITIES, C. O. (2001). *The eLearning Action Plan, Designing tomorrow's education.* Brussels: COMMISSION OF THE EUROPEAN COMMUNITIES.

---

[8]http://www.enqa.eu, accessed 16.03.2018., the European Association for Quality Assurance in Higher Education generally takes care even about qualitative access to e-learning contentalong with education. The Agency for Science and Higher education in Croatia is a member of the Association.

del Barrio-García, S. A.-F. (2015). Personal learning environments acceptance model: The role of need for cognition, e-Learning satisfaction and students' perceptions. *Journal of Educational Technology & Society*.

European Association for Quality Assurance in Higher Education. (10. March 2018). Dohvaćeno iz European Association for Quality Assurance in Higher Education: http://www.enqa.eu

European University Association. (2015). *E-learning in European Higher Education Institutions*. EUA.

Harding, D., & Rovit, S. (2007). *Companies acquisitions and mergers*. Zagreb: Business Journal and Masmedia.

Hrvatski sabor. (2014). *Science and technology education strategy* .Accessed from the Official Gazette S.C.: https://narodne-novine.nn.hr/clanci/sluzbeni/2014_10_124_2364.html (accessed 22.03.2018.)

Josep Grifoll, E. H. (2010). *Quality Assurance of E-learning* . Helsinki: European Association for Quality Assurance in Higher Education.

Ministarstvo uprave. (2015). *e-Croatia Strategy 2020.*Ministry of Administration.

Puvača, M. (2013). *Information communication technology as the foundation of a modern university*. Osijek.

SRCE. (15. 03 2018). Accessed from the institutions e-courses Catalogue in the higher education system of the Republic of Croatia: http://katalog-e-kolegija.srce.hr/

Yilmaz, R. (2017). Exploring the role of e-learning readiness on student satisfaction and motivation in flipped classroom. *Computers in Human Behavior*, 251-260.

Zdrilić, I. (2013). *The impact of the model of business excellence on the competitive advantage of Croatian companies (PhD thesis).* Osijek: Osijek Faculty of Economy.

4

Uloga prava u razvoju gospodarstva

The role of law in economic development

Biljana Činčurak Erceg, PhD
J. J. Strossmayer University of Osijek, Faculty of Law Osijek
StjepanaRadića 13, 31000 Osijek, Croatia
Phone: +385 31 224 562 Fax: +385 31 224 540
E-mail address: biljana.cincurak@pravos.hr

Aleksandar Erceg, PhD
J. J. Strossmayer University of Osijek, Faculty of Economics in Osijek
Gajevtrg 7, 31000 Osijek, Croatia
Phone: +385 31 224 426 Fax: +385 31 214 604
E-mail address: aleksandar.erceg@efos.hr

Predrag Dotlić, MSc
University Hospital Osijek
Josipa Huttlera 4, 31000, Osijek, Croatia
Phone: + 385 31 511 511
E-mail: pdotlic@gmail.com

FRANCHISING IN TRANSPORT LAW – BIKE SHARING AS BUSINESS MODEL OF URBAN TRANSPORT DEVELOPMENT

FRANŠIZA U PROMETNOM PRAVU – *BIKE SHARING* KAO POSLOVNI MODEL RAZVOJA GRADSKOG PROMETA

ABSTRACT

Reducing pollution and congestion, increasing the modal share of public transport, solving urban transport problems and integration of transport are some of the European transport policy goals. In its 2017 Transport Development Strategy of the Republic of Croatia 2017 - 2030, the Republic of Croatia also emphasizes the need to solve these problems. Using bicycles as a mode of transport has multiple advantages but is insufficiently legally regulated. In the Republic of Croatia, it is necessary to encourage the more significant use of bicycles. Authors find bike sharing as one of the solutions for the integration of cycling in traffic asit has been developed in some EU countries as a significant mode of public transport.

The Republic of Croatia has a potential for implementation and development of bike sharing based on franchising business model. Franchising is used as a way of starting a new venture and as a growth strategy and can be a possible solution for the spread of bike sharing both in EU and in the Republic of Croatia.

The paper presents provisions of the applicable legislation relevant to the topic of this paper, noting that there are no appropriate bicycle regulations. Since the franchise business model is not regulated by a separate law, it is necessary to considercreation of anadequate business model that will contribute to the development of public transport and traffic rights in general. The paper presents an example of creation and implementation of bike sharing franchise for public transport system development.

***Keywords**: bike sharing, franchising, transport law, business model, public transport.*

SAŽETAK

Neki od ciljeva europske prometne politike su smanjenje onečišćenja, smanjenje gužvi, preusmjeravanje na javni prijevoz, rješavanje problema gradskog prometa te integracija prometa. Republika Hrvatska u svojoj Strategiji prometnog razvoja Republike Hrvatske za razdoblje od 2017. do 2030. godine iz 2017. također naglašava nužnost rješavanja ovih problema i kod nas. Korištenje bicikala kao oblika prijevoza ima višestruke prednosti, ali je nedovoljno pravno regulirano. U Republici Hrvatskoj potrebno je poticati značajnije korištenje bicikala. Kao jedno od rješenja za integraciju biciklizma u promet autori pronalaze u bike sharingu. Bike sharing se u nekim državama EU razvio kao značajan oblik javnog prijevoza.
Republika Hrvatska ima potencijal za njegovo uvođenje i razvoj na temelju franšiznog poslovnog modela. Franšizni poslovni model koristi se kao način ulaska u poduzetništvo i kao strategija rasta i geografskog širenja poslovanja te je moguća solucija za širenje bike sharinga kako u EU tako i u Republici Hrvatskoj.
U radu se prikazuju odredbe važećeg zakonodavstva relevantne za temu ovog rada uz napomenu da odgovarajuća regulativa za biciklizam ne postoji. Budući da franšizni poslovni model nije uređen posebnim zakonom, potrebno je voditi računa o pronalasku kvalitetnog poslovnog modela koji će doprinijeti razvoju javnog prometa i prometnog prava općenito. Na primjeru bike sharing tvrtke prikazano je kreiranje i uspostavljanje franšiznog poslovnog modela, a u cilju razvoja javnog prometa.

Ključne riječi: *bike sharing, franšiza, prometno pravo, poslovni model, javni promet.*

1. Introduction

Almost 70% of the European population is concentrated in urban areas (European Commission, 2017) and there are some significant problems regarding transport in such areas - traffic congestion, pollution, space, safety, traffic accidents, delays.These problems are increasing constantly. At the same time integration of the environment into the formulation of other Union policies have become essential. Public transport plays important role in everyday life, for workand for leisure. As it was stated in many EU documents the objectives of European transport policy cannot be achieved without the contribution from urban transport. Main problems of urban transportation are environmental pollution and congestion. Public transport, as well as non-motorized modes of transport (cycling and walking),contribute towards a development in terms of the environment protection, and the ability to successfully combine different modes of transportation could be effectivein reducing congestion.

According to the recent EU documents such as Green Paper 'Towards a new culture for urban mobility', alternatives to private car use, such as walking, cycling, collective transport or the use of the motorbike and scooter, should be made attractive and safe, and the local and regional authorities should ensure that these modes are fully integrated into the development and monitoring of urban mobility policies (European Commission, 2007: 6).

Bicycling has huge potential in theurban transportation system. Bicycling has many advantages as a mode of transport in urban areas: it is environmentally friendly, economical and healthy. From the other side, barriers to bicycle *use include vulnerability in accidents with motorized traffic, bicycle theft, increasing travel distances due to urban sprawl, perceived low social status, weather and topology* (European Conference of the Ministers of Transport, 2004: 9),Many bicycling projects have been supported within the EU framework program for research and technological development, from the planning of bicycling and pedestrian infrastructure to bike sharing systems. European Commission recognizes the bike sharing as clean and energy efficient sustainable mode of mobility in urban areas. *Bike sharing systems are introduced to increase mobility choice, improve air quality* *and reduce congestion. The basic premise of the bike-sharing concept is sustainable transportation* (Dotter, 2016: 2) or as was stated by Shaheen, Guzman and Zhang (2012: 2), *the ultimate goal of bike sharing is to expand and integrate cycling into transportation systems so that it can more readily become a daily transportation mode.*

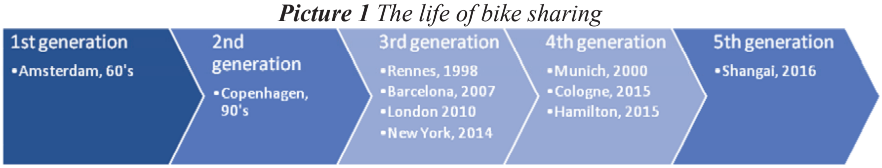
Bike-sharing systems provide bike-docking stations throughout a city, allowing individuals to use a bike for their journey before returning it to a different (or the same) docking station. Bike-sharing schemes are provided by private operators or local governments themselves (Finck and Ranchordás, 2016: 1321).These bicycles usually contain technologies that allow operators to track them. *Pricing structures generally encourage short-term rental (for example, the first 30 min are usually free), after which, users are charged on a sharply rising scale. Users are generally required to provide credit card details, which act both as a deposit, as well as payment for registration and usage fees* (Fishman, Washington and Haworth, 2013; 149). Bicycles are normally rented but bike sharing can also be free. Some provide free access to members and others charge a monthly or yearly fee. *Nashville Bike Share in Nashville, Tennessee offers free bikes to all residents and students* (Lachman et. al, 2013: 90).

Bike sharing*differs from traditional, mostly leisure-oriented bicycle rental services, in the following ways: they can be taken from one location and either returned there or at another location; they provide fast and easy access; they can include diverse business models; they make use of applied technology such as smart cards or mobile phones; and they are often integrated with a municipal or regional public transport system* (Dotter, 2016, 2).

2. Bike sharing business model

Bike sharing, as previously defined, was also introduced afew decades ago and we have witnessed several generations of bike sharing models until now. Several authors (DeMaio, 2009; Shaheen, Guzman and Zhang, 2010; Wang et. al, 2010, Brink, 2016, Guyandi et. al, 2017) examined theevolution of bike sharing models worldwide and according to them currently,the bike sharing business model is in itsfifth generation. (Picture 1)

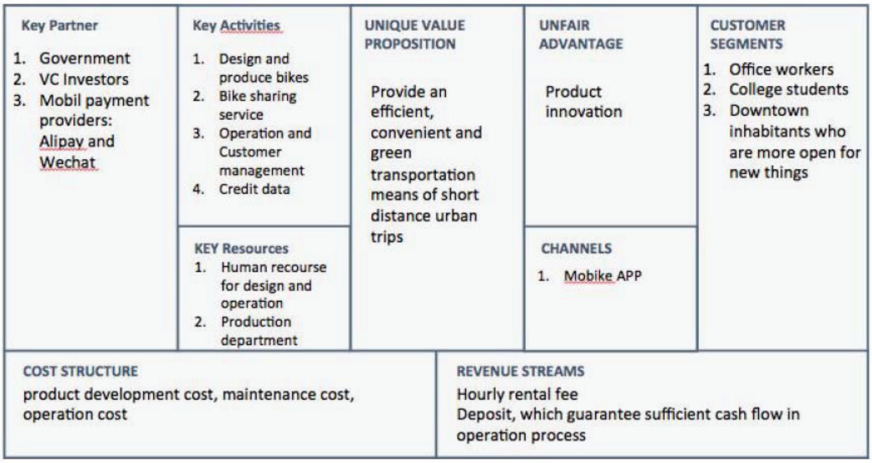
Picture 1 *The life of bike sharing*



Source: adapted from Brink, 2017

Main characteristics of the first generationwere free bikes which were used for one trip and then left to other for usage and these bikes were mainly for use by thegovernmentor public organizations while second generation bikes were for everyone and were equipped with electronic cards(Wang et. al, 2010).The third generation was characterized byfurther technological improvements like *electronically-locking racks or bike locks, telecommunication systems, smartcards and fobs, mobile phone access, and onboard computers*(DeMaio, 2009: 42).Fourth and fifth generation iterations are under influence of integration with public transport organizations (4^{th} generation) and further technological improvements such as big data (5^{th} generation). As the bike sharing was evolving its business model has been evolving as well. Kuratko (2017: 280) defined abusiness model as a *description of how a venture will create and deliver value*, while Osterwalder and Pigneur(2010: 14) conclude that *the business model describes the rationale of how an organization creates, delivers, and captures value.*Tosimplifyit, thebusiness model canvas was introduced to presentand clarify the process. Business model canvas is a tool which helps in visually describing, designing and pivoting company's business model. (Picture 2)

Picture 2 *Bike sharing business model canvas*



Source: adapted from Wu and Xue, 2017

Every bike sharing company has similar business model canvas but based on the providers and their main intentions bike sharing business models can be significantly different. During years several business models have been used for development, operationand financing of bike sharing programs. Bike sharing operator can include non-profit groups, for-profit companies, public transport companies, local governments and advertising agencies(Shaheen, Guzman and Zhang, 2010; DeMaio, 2009, Wang et. al, 2010, Dotter, 2016). Table 1 presents an overview of business models regarding operators and financing.

Table 1 *Bike sharing business models*

Provider	Business model	Examples	Operator
Advertising company	Provides and operates the system in exchange for advertising rights	Vélib' (Paris) Citybike (Vienna)	JCDecaux (FR) Gewista (AT)
For-Profit	Provides and operates the system for a profit with minimal government involvement	BiKeR (Białystok) Citybike (Szeged)	Nextbike (DE) SundMagyarország Ltd. (HU)
Local Authorities	Contracts with the provider to install and operate system for a fee	Bicing (Barcelona) Bicibur (Burgos)	Clear Channel (USA) ITCL (ES)
Non-Profit	Provides and operates the system with the support of local authorities	Bycyklen (DK)	CityBike Foundation of Copenhagen (DK)
Public Transport Operators	Designs, owns and operates the system	ČD (Kroměříž) Bike House (Teheran)	ČD railway (CZ) Teheran Municipality (IR)
	Provides and operates thesystem to enhance public transport	Call a Bike (DE) OV-Fiets (NL)	Deutsche Bahn (DE) Netherlands Spoorwegen (NL)

Source: adapted from Shaheen, Guzman and Zhang, 2010; Dotter, 2016

The bike sharing business model requires significant investment and the question how to operate the bike sharing program efficiently is very important. The mostof bike-sharing programs operate as apublic private partnership with one of three large advertising companies - Cemusa, Clear Channel or JCDecaux (Midgley, 2011).In this relationship,city government ensures the advertising space to acompany which is providing and operating bike sharing system. With this scheme in place,the local government needs little or no direct funding for setting and operating the bike-sharing system. Other funding possibilities include franchising, user feesandlocal governments budgets.Companies use franchising when they want to expand in ageographicalsense, but they donot want to rely on their own financial resources for this investment(Alon, Alpeza and Erceg, 2010).Franchising relationship has numerous advantages for both included parties – franchisor and franchisee.

3. Legal regulation

As stated in the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Together towards competitive and resource-efficient urban mobility' mobility within cities is increasingly difficult and inefficient. Many European cities suffer from traffic congestion which is estimated to cost 80 billion Euros annually. Urban areas also account for some 23%, of all CO_2 emissions from transport. However, there is a greater potential for cities to move towards low-carbon transport than for the transport system, through the development of walking, cyclingand public transport.

Public transport is carried out by placing (providing) vehicles for public use permanently and with charge, and its obligation is regulated by the rules of civil and transport law (Vasilj, Činčurak Erceg, 2016: 26). An appropriate legal framework for public transport is essential both at the EU and national level. Several EU policies have already addressed urban transport, legislative initiatives have been developed but in a fragmented way. The development of the current EU urban transport policy has a long history. The European Commission's first policy proposals in urban mobility, the "Citizens' Network", date back to 1995 and 1998. In 2007 the European Commission adopted the Green Paper "Towards a new culture for urban mobility", Action Plan on urban mobility in 2009, Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system in 2011,Urban Mobility Package in 2013. They all mention cycling in the context of urban transport problems: as a method of reducing congestion, when talking about thesafety of bicyclists, improving the quality of infrastructures for cyclists. The informal meeting of EU ministers for Transport adopted a Declaration on Cycling as a climate-friendly transport mode, in October 2015. Ministers called upon the Commission, Member States and local and regional authorities to consider several actions in that regard. (European Commission, 2017) Ministers and State Secretaries call upon the Commission, among others, to develop an EU level strategic document on cycling and to set up a European focal point for cycling which is certainly a useful suggestion. The Commission works on further integrationof bicycling into the multimodal transport policy and therefore is involved in many actions, programs, projectsand provides funding. The aim of these activities is to contribute towards the increaseof the modal share of cycling in the EU cities.

Using bicycles as a mode of transport has multiple advantages but is insufficiently legally regulated. Some countries have a separate, specific plan for cycling promotion at a national level, while others have cycling policies as components of larger transport, environment or health plans. Some countriesindicated particularly limited commitment to cycling at a national level, with cycling policy falling mostly to regional and local authorities.(European Conference of the Ministers of Transport, 2004)However, most of the European states do not have required regulatory framework for bicycling and bike sharing. The approach to cycling on a national level varies from country to country. *In many countries, cycling remains the exclusive responsibility of regional and local authorities with limited commitment at a national level.* (European Conference of the Ministers of Transport, 2004: 10) Due to the mostly local, short-distance trips made by bike, policiesand programs to promote safe and suitable cycling are usually carried out at the municipal level. So, local communities and the law should support bicycling as well as on the national level.For example, Croatian Road Traffic Safety Act, in Article 5(1) states that local and regional self-government units, in accordance with its provisions, with the prior consent of the ministry responsible for internal affairs, regulate traffic in their area by determining traffic of bicyclists, among other things.

In the Republic of Croatia, it is necessary to encourage the more significant use of bicycles. The general goals of the transport policy of the Republic of Croatia do not differ from those of the EU.

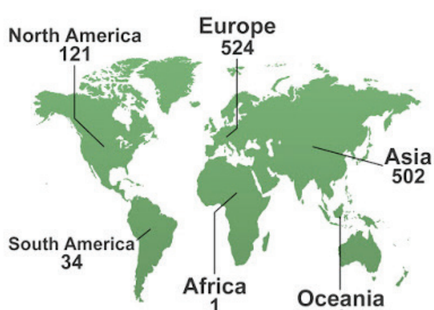
Some of the general goals listed in the Transport Development Strategy of the Republic of Croatia (2017-2030) are: to change the distribution of passenger traffic in favor of public transport and modes of transport with zero emissions; reduce the impact of the transport system on climate change and on the environment; increase the safety of the transport system. The Transport Development Strategy of the Republic of Croatia (2017-2030) observes the citizen mobility in the sense of the use of public transport (rail, tram, bus, waterborne, etc.), as well as individual mobility (transport by car or bicycle and walking). The Strategy states that a study of travel habits is indicating that about 5% of all traveling the Republic Croatia is related to bicycle travel and that Koprivnica, Varaždinand Osijek are good examples of bicycle use in the Republic of Croatia. Better integration of the bicycle transport system into the public transport and investments in infrastructure improvement will provide thepotential for a larger share of bicycles in the overall transport structure. (The Transport Development Strategy of the Republic of Croatia (2017-2030), 2017: 54). The Republic of Croatia has adopted two ordinances regulating the cycling infrastructure: Ordinance on Functional Categories for Determination of Bicycle Routes (OG, No. 91/13, 114/17), Ordinance on Cycling Infrastructure (OG, No. 28/16). Although an increasing number of European countries are adopting and implementing national cycling strategies, we emphasize that Croatia has not yet adopted a national cycling strategy.

As one of the solutions for the integration of bicycling in transport, we propose the bike sharing.Many people do not have a bicycle for various reasons, but they love and want to ride it, so bike sharing is an ideal solution for them.Public bike share *is, in fact, a public transport mode* and it needs to be planned, coordinated, and progressed (European Cyclists' Federation, 2017: 5). Only through a strategic policy and regulatory framework can a public bike share be developed and evolved to meet needs of theurban area. To promote and recognize bicycling as a form of transportation, the legislator must look out for laws that will adequately regulate the safety of bicyclists and recognize the unique features of this mode of transport. Strict enforcement of traffic rules is also essential.

4. Bike sharing and franchising

Different bike sharing programs are present worldwide, especially in developed countries, with goals to improve public health, lower costs, increase accessibility, etc. Bike sharing programs are in operation, being planned or constructed or have ended their operations in almost 2.100 cities worldwide. At the end of 2016, there were almost 2.000.000 bikes in different bike sharing programs in 1.175 cities in 63 countries worldwide (DeMaio, 2018).Guyandi et. al (2017) state that there were more than 1,9 million bikers which used bike sharing programs worldwide. (Picture 3)The biggest bike sharing fleets have China (753.000), France (43.000), Spain (26.000), USA (22.000) and Germany (13.000)(Richter, 2015).

Picture 3 *Bike sharing programs worldwide*



Source: DeMaio, 2018

There are numerous and well-known bike sharing programs and one of the most famous and one of the oldest still running is Velib – a bike sharing program from Paris, France. This program has started in 2007 with 10.600 bikes in 750 rental stations. The program was asuccess since every minute 75 bikes are rented, each bike is used 6 times per day, has now more than 300.000 annual subscribers and there were more than 300.000.000 trips during last ten years.

Another successful example is bike sharing program Nextbike from Leipzig, Germany. Nextbike is the largest European bike-share operator which is currently present in more than 150 cities (i.e. Berlin, Budapest, Cologne, Warsaw, Dubai, Pittsburgh) in 24 countries and has more than 40.000 bicycles in use. Their market experience and technology changed how public transport looks in cities where they are present. They are supporting cities and public transport operators with their quality and reliable and flexible bike sharing programs. Their programs are implemented with existing public transport infrastructureand in accordance with requirements of smart cities. With their know-how and experience, they can support partners (public transport companies and local government) in bike sharing programs planning in order to decrease traffic problems ecologically (sustainability) andeconomically (profitability).

4.1. Nextbike – franchise business model in bike sharing

As it was mentioned before, franchising is one of the possibilities for funding expansion of bike sharing business model. Nextbike is one the bike sharing companies which is using franchising to expand their business.Another example of bike sharing franchising system isoBike (Singapur).Nextbike's aim is to use franchising to expand and set up operations with their franchisees in large cities and tourist areas. Theyuse franchising to start bike sharing programs internationally and currently they are present in Austria, Poland, Bulgaria, Switzerland, Bosnia and Herzegovina, Croatia, Hungary, Ukraine, UK and USA.

Potential franchisee receives anadequate number of bicycles - nextbikes. This number ranges from 100 to up to several thousand bikes in large cities, while in small towns this number is agreed based on the potential need. Franchisee distributes bikes all over his city selecting the most suitable places and then needs to provide marketing activities andto acquire advertising for bikes and customers (who will be renting his bikes).He also oversees bike maintenance and adverts changing. Franchisor is securing fleet park management portal which is used for tracking bicycles (franchisee has). Franchisee need to take care ofbikes – repairs and maintenance. All spare parts have to be ordered from Nextbike in order to maintain standard. Franchisee Besides the franchise fee, franchisee paysthe franchisor one-off activation fee per each nextbike while they keep significant portion of rental and advertising revenue. With this condition set, both parties – franchisor and franchisee have interest in business relationship and they strive to do business as best they can, implementing bike sharing in the urban transport development of their cities.

5. Conclusion

EU documents referring to bicycling are linked to sustainable transport, i.e. the reduction of negative traffic problems and the development and redirection of cycling are one of the possible solutions. Concrete regulations that regulate only cycling, according to available information, do not exist.Specific measures to promote bicycling in urban areas are best planned and realized at a local level since bicycling is primarily a mode of short-distance transport. However, the national level regulators can play an important role in creating the policy framework for the development of bicycling in urban areas. Many cities and states are trying to accommodate bicyclists on their streets. Cities should must be encouraging more bicycling through improved bike lanes and networks, safer intersections, provision of bike-storage facilities and city bike-sharing services. Encouraging bicycling and good infrastructure shows that cities are willing to address climate change and other environmental problems, health issues, traffic congestion.We propose the promotion of bicycle transport, its greater integration into urban transport as well as the adoption of adequate regulation and legislation.

Bike sharing program (model) allows a short-term rent of bicycles from one docking station to another and serves as a good way for promotion of a bicycle use.It is theperfect solution for tourists and citizens that do not own a bike so local and regional authorities should encourage it.

Bike sharing operates through several business models worldwide,with distinctions based on funding model andprovideroptions. One of the possible way of funding the business expansion is franchising and already several bike-sharing companies have decided to use this growth strategy.

Further research should be conducted to confirm if the franchising is good choice for funding the expansion of bike sharing or there is a better strategy for it.The influence on a development of urban transit should also be examined.A suitable case study for this research is, among others, the implementation of the nextbike strategy in cities where they are already present.

REFERENCES

Alon, I, Alpeza, M, Erceg, A. (2010):***Franchising in Croatia,***in I. Alon, (ed.), Franchising globally: innovation, learning and imitation, p. 138-154 Palgrave Macmillan, New York

Brink, K. (2017):***Bike Sharing, Five Generations Later: What's next?***, presentation at 2017 Annual Polis Conference, 6-7 December, Brussels, Belgium

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (2013): ***Together towards competitive and resource-efficient urban mobility***, Brussels, 17.12.2013, COM(2013) 913 final

DeMaio, P. (2009): ***Bike-sharing: History, Impacts, Models of Provision and Future,*** Journal of Public Transportation, Vol. 12, No. 4, pp. 41-56.

DeMaio, P. (2018): The Bike-sharing World Map is 10 years oldhttp://bike-sharing.blogspot.hr/ (accessed 3 February 2018)

Dotter, F. (2016):***Bike-sharing as a link to desired destinations***, CIVITAS Insight N°10, http://civitas.eu/content/civitas-insight-10-bike-sharing-link-desired-destinations (accessed 10 February 2018)

European Commission (2007):***Green Paper - 'Towards A New Culture for Urban Mobility***, Brussels, COM (2007) 551 final, {SEC (2007) 1209}

European Commission (2017):***Clean transport, Urban transport: Cycling***, https://ec.europa.eu/transport/themes/urban/cycling_en, (accessed 5 March 2018)

European Conference of the Ministers of Transport (2004), ***Implementing Sustainable Urban Travel Policies: Moving Ahead. National Policies to Promote Cycling***, Paris http://www-sta.itf-oecd.org/sites/default/files/docs/04cycling.pdf, (accessed 7 March 2018)

Finck, M.; Ranchordás, S. (2016): ***Sharing and the City,*** Vanderbilt Journal of Transnational Law, Vol. 49, No. 5, pp. 1299-1369.

Fishman, E.; Washington, S.; Haworth, N. (2013): ***Bike Share: A Synthesis of the Literature***, Transport Reviews, Vol. 33, No. 2, pp. 148-165

Guyandi, O., Wang, G., Sriwidadi, T., Prabowo, H., Sari, R. K. (2017):***Assessing bike sharing business model***,in1st International Conference on Informatics and Computational Sciences Semarang, 2017, pp. 89-94

Kuratko, D. F. (2017):***Entrepreneurship – theory, process, practice***, 10thed., Cengage learning, Boston, USA

Lachman, B. E., Gereben Schaefer, A., Kalra, N., Hassell, S., Curry Hall, K.,Curtright, A. E., Mosher, D. E. (2013): ***Key Trends That Will Shape Army Installations of Tomorrow***, RAND Corporation, http://www.jstor.org/stable/10.7249/j.ctt5hhv93 (accessed 15February 2018)

Midgley, P. (2011):***Bicycle-sharing schemes: Enhancing sustainable mobility in urban areas***, United Nations Department of Economic and Social Affairs, Commissions on Sustainable Development - Background Paper No. 8,http://www.un.org/esa/dsd/resources/res_pdfs/csd-19/Background-Paper8-P.Midgley-Bicycle.pdf (accessed 5 February 2018)

Osterwalder, A., Pigneur, Y. (2010):***Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers***, Wiley, Hoboken, USA

Road Traffic Safety Act, Official Gazette of the Republic of Croatia, No. 67/08, 48/10, 74/11, 80/13, 158/13, 92/14, 64/15, 108/17.

Richter, D. (2015): ***Bike-Sharing Is Taking Off Around the World***, https://www.statista.com/chart/3325/bike-sharing-systems-worldwide/ (accessed 1 March 2018)

Shaheen, S., Guzman, S., Zhang, H. (2010): ***Bike sharing in Europe, the Americas, and Asia: Past, Present, and Future,***Research Record: Journal of the Transportation Research Board, Vol. 1, No. 2143, 2010, pp. 159-167.

The Republic of Croatia: Ministry of the Sea, Transport and Infrastructure, ***The Transport Development Strategy of the Republic of Croatia (2017-2030)***, http://www.mppi.hr/UserDocsImages/MMPI%20Strategija%20prometnog%20razvoja%20RH%202017.-2030.-final.pdf, (accessed 10 March 2018)

Vasilj, A., Činčurak Erceg, B. (2016): ***Prometno parvo iosiguranje***, Sveučilište J. J. Strossmayera u Osijeku, Pravni fakultet Osijek, Osijek

Wang, S., Zhang, J., Liang, L., Duan, Z. (2010):***Bike-Sharing-A new public transportation mode: State of the practice & prospects***, in2010 IEEE International Conference on Emergency Management and Management Sciences, Beijing, pp. 222-225

Wu, F., Xue, Y. (2017): ***Innovations of bike sharing industry in China - A case study of Mobike's station-less bike sharing system***, http://www.diva-portal.org/smash/get/diva2:1111732/FULLTEXT01.pdf, (accessed 15 February 2018)

Ana Đanić Čeko, PhD, Postdoctoral Researcher
Chair of Administrative Law, Faculty of Law in Osijek, Josip Juraj Strossmayer University of Osijek
Stjepana Radića 13, 31 000 Osijek
Phone: +38591 224 55 36, +38531 224 512 Fax: +38531224540
E-mail address: adjanic@pravos.hr

LEGAL FRAMEWORK FOR EXERCISING THE RIGHT OF ACCESS TO INFORMATION

PRAVNI OKVIR OSTVARIVANA PRAVA NA PRISTUP INFORMACIJAMA

ABSTRACT

Openness, transparency and availability of information from public authorities is, above all else, the foundation of a democratic society and also a significant factor in the growth and advancement of economy. To reflect this, the right of access to information was raised to the constitutional level in 2010 and constitutes one of the basic human rights.

This paper will present the legal framework for exercising the right of access to information in accordance with the Act on the Right of Access to Information (lex specialis). Competent authorities will be highlighted and teleological, grammatical and logical interpretation methods will be used to analyze procedural provisions regulating the implementation of special administrative procedures related to provision of information. Furthermore, after a decision by the information commissioner and a possible appeal procedure, dissatisfied parties may obtain the next level of legal protection by initiating an administrative dispute by appealing before the High Administrative Court of the Republic of Croatia.

The decision on particular administrative matters is exempted from the jurisdiction of first instance administrative courts by a regulation from 2010 whereby it is transferred to a hierarchically higher court instance. The said exemption from first instance jurisdiction does not constitute a rule in domestic or comparative law of European countries. The High Administrative Court of the Republic of Croatia rules primarily as a second instance court, so special attention will be given to the specificity of its role and position in providing court protection in this special administrative area. By analyzing specific court cases from administrative law practice using the casuistic method, we will provide insight into its decision-making process. As part of the above, we will conclude by trying to determine the legislator's reasons, as well as the justification for transferring decision-making and handling cases in a single instance before the highest specialized court within the administrative judiciary.

Key words: *access to information, special administrative procedure, appeal procedure, Information Commissioner, first instance administrative dispute, High Administrative Court of the Republic of Croatia.*

SAŽETAK

Otvorenost, javnost i dostupnost podataka tijela javne vlasti prije svega čine temelj demokratskog društva te značajno doprinose razvoju i unapređenju gospodarstva. U prilog tome, omogućavanje prava na pristup informacijama uzdignuto je na ustavnu razinu 2010. te predstavlja jedno od temeljnih ljudskih prava.

U radu će se prikazati pravni okvir ostvarivanja prava na pristup informacijama sukladno Zakonu o pravu na pristup informacijama (lex specialis). Istaknut će se nadležna tijela i analizirati postupovne odredbe primjenom teleološke, gramatičke i logičke metode tumačenja, a kojima se regulira provođenje posebnog upravnog postupka vezanog za pružanje informacija. Nadalje, nakon donošenja rješenja službenika za informiranje i mogućeg žalbenog postupka, nezadovoljne stranke daljnji stupanj pravne zaštite mogu ostvariti pokretanjem upravnog spora tužbom Visokom upravnom sudu Republike Hrvatske.

Rješavanje određenih upravnih stvari izuzima se iz nadležnosti prvostupanjskih upravnih sudova zakonskim uređenjem 2010. te se dodjeljuje hijerarhijski višoj sudskoj instanci. Spomenuto izuzimanje iz prvostupanjske nadležnosti ne predstavlja pravilo u domaćem niti u usporednom pravu europskih zemalja. Visoki upravni sud Republike Hrvatske u upravnim sporovima prvenstveno odlučuje kao drugostupanjski sud, stoga će se poseban naglasak staviti na specifičnosti njegove uloge i položaja u pružanju sudske zaštite u ovom posebnom upravnom području. Analizom konkretnih sudskih predmeta iz upravno-sudske prakse prema kazuističkoj metodi, omogućit će se uvid u načine njegova odlučivanja. U sklopu navedenoga, zaključno ćemo pokušati ustvrditi zakonodavčeve razloge, kao i opravdanost ustupanja odlučivanja i rješavanja predmeta u jednom stupnju pred najvišim specijaliziranim sudom unutar upravnog pravosuđa.

***Ključne riječi**: pristup informacijama, posebni upravni postupak, žalbeni postupak, Povjerenik za informiranje, prvostupanjski upravni spor, Visoki upravni sud Republike Hrvatske.*

1. Introduction

Openness and transparency of public authorities' activities is paramount in any democratic modern society. Increasing demand for transparency, availability, accountability and participation of public authorities[1] has led to formulation of rights to manage information in the public sector. It is worth noting that the right of access to information is, generationally speaking, a relatively new right and it constitutes "*one of the key elements of information administrative law.*" (Rajko, 2011, 2-5). Public authorities' timely publishing of information and notifying the publicin an adequate and accessible way is a right which allows better relations with the public, better connection with citizens and strengthens trust in the functioning, accountability and accessibility of public authorities (Đanić, Halak, 2013, 379). This allows citizens to be better informed and safeguards the principle of equality between public authorities and citizens in matters of information management. It contributes to the legitimacy and accountability of public authorities, curbs corruption and allows monitoring of their activities, chiefly with the aim of improving the quality of their operation. Raising awareness of the importance and practice of proactive informing and involving the public in creating public policies and regulations has increased public interest in access to information.[2] By limiting opportunity for misuse on the part of public authorities, legality and regularity of procedure is promoted.[3] The right of access to information and the availability of information pertain to one of the fundamental human rights, vouchsafed in numerous legal sources outside the domain of national

[1] These standards are widely recognized as the foundational characteristics of modern democratic governments and as basic principles and values of the European administrative judiciary. For more research on the effects of the Europeanization process on the openness of public administration in Croatia, see Vidaček, I., Škrabalo, M. (2014): *Exploring the Effects of Europeanization on the Openness of Public Administration in Croatia*, Hrvatska i komparativna javna uprava, Vol. 14, No. 1., str. 152-162.
[2] See *Final proposal of the Act on the Right of Access to Information*, P. Z. E. No. 832, Klasa: 022-03/15-01/39, Ur. broj: 50301-09/06-15-7, 2 July 2015, pp. 16. http://www.sabor.hr/konacni-prijedlog-zakona-o-izmjenama-i-dopunam0021, (accessed 20 February 2018).
[3] See *Report on the Implementation of the Act on Access to Information for 2013*, Zagreb, 31 March 2014, p. 2 (hereinafter: Report for 2013).

law.[4] It has been raised to constitutional level as one of the (most) fundamental personal rights of citizens.[5] However, this was not always the case. Constitutional changes in 2010[6] explicitly included the right of access to information in the human rights catalog. The said constitutional provision changed the "regulative perspective" in the area of right of access to information of the public sector (Rajko, 2010, 629, 638).

This paper will focus on analyzing the legal framework for exercising the right of access to information and present the instruments of legal protection available to users in administrative procedures. We will list competent authorities and give a short explanation of the procedure-from submitting arequest to issuing a decision and a possible appeal procedure. Then, we will investigate the specificity of the jurisdiction and role of the High Administrative Court of the Republic of Croatia (hereinafter: HAC) in single-instance administrative disputes where decisions are made on the basis of the Act on the Right of Access to Information. Next, based on insight into the court practice of the HAC and collected statistical data of the said court, we will form an opinion on its ruling practices in the observed period (2012-1017). We will question the justification of the legislator's reasons for bringing this administrative-law area under the single-instance jurisdiction of the HAC. We will conclude with some final observations on the research question.

2. Overview of the process mechanism of legal protection in administrative procedures related to right of access to information

The right of access to information differs from other rights related to freedom of information, because it protects active participation of the right-holder (Tropina Godec, 2009, 324). It encompasses the right to request and obtain information, as well as the obligation by the competent authority to provide and enable access to requested information under equalconditions-that is, correct, complete, and public disclosure of information which allows for easy searching and reading. This area requires adequate legislation (Đerđa, Popovski, 2011, 25), institutional mechanisms and independence of competent authorities in their implementation.

The fundamental (general) law regulating citizens' right of access to information kept by public authorities (hereinafter: PAs) is the *Act on the Right of Access to Information* (hereinafter: ARAI).[7] The procedural provisions[8] of the ARAI regulate the procedure and ways of exercising the right of access to information. The main procedural principles are laid out in Chapter II (Arts. 6-9 of the ARAI). PAs[9] are required to enable access to information in twolegally envisioned ways: 1) by timely publication in an adequate and accessible way (Art. 17, para. 1, pt. 1 of the ARAI), or 2) in one of five ways according to Art. 17, para. 1, pt. 2 of the ARAI, if the user has submitted a request.

[4] These sources can be found in Art. 10.1, para. 1 of the (European) Convention for the Protection of Human Rights and Fundamental Freedoms; Council of Europe Convention on Access to Official Documents from 2008; Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention); Art. 11 and Art. 42 of the Charter of Fundamental Rights of the European Union; Art. 19 of the 1948' Universal Declaration of Human Rights; and many other international contracts and documents.
[5] See chapter II, "Protection of Human Rights and Fundamental Freedoms" Art. 38, para. 4 of the Constitution of the Republic of Croatia, No. 55/90, 135/97, 8/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10, 05/14
[6] *Proposal to Amend the Constitution of the Republic of Croatia*, Committee on the Constitution, Standing Orders and Political System, Klasa: 012-02/10-01/01, Ur. broj: 6521-1-10-06, 15 June 2010, p. 14-15. See also http://www.sabor.hr/Default.aspx?art=33199, (accessed 20 February 2018). *Amendments to the Constitution of the Republic of Croatia*, Official Gazette, No. 76/10.
[7] Official Gazette, No. 25/13, 85/15 (hereinafter: ARAI).
[8] Art.17-26 of the ARAI (Chapter V), from a user's submission of a request to access information, to providing legal protection in the event of appeal or administrative dispute.
[9] For a list of bodies considered public authorities, see Art. 5, pt. 2 of the ARAI. The first version of the list was drafted and published in September 2014. For more information, see also https://data.gov.hr/dataset/azurirani-popis-tijela-javne-vlasti, http://tjv.pristupinfo.hr/, (accessed 23 February 2018).

The administrative procedure is initiated by submitting a written or oral *request*[10] to a competent authority.[11] It is also important to note that these procedures are exempted from paying administrative or court fees.[12]

According to the ARAI, each PA is required to appoint by decision an official *(information commissioner*) who will be responsible for handlingindividual requests.[13] In the process of providing information on the basis of user request, PAs decide by issuing a *decision.*[14] The decision needs to be made within fifteen days[15]of submission of an orderlyrequest (providing the information or limiting access altogether or partially, or performing a test of proportionality and public interest[16]). When a PA enables access to information, it does not issue a decision. In case of a negative decision, denial[17] or rejection[18] of a request, or refusing access to information or its reuse within theprescribed period, the ARAI regulates matters of legal protection of the user (authorized person) of the right of access to information.Accordingly, it follows that users have the right to appeal[19] against a decision by the public authority within 15 days of receipt of the decision. The appeal can be lodgedfor the following reasons: a) against a *decision* on access to information, b) *administrative silence* regarding access to information (when a PA does not decide on user's request[20] within the prescribed time period), c) against a *decision* on reuse of information, d) *administrative silence* regarding reuse of information.

According to the two-instance principle, jurisdiction in deciding on appeals is given to the *Information Commissioner*[21] (hereinafter: Commissioner).[22] Given that PAs have various obligations prescribed by law, their activities are monitored by the Commissioner accordingly. We would like to note here that the institution of Commissioner as the single, separate and independent governmental body (Rajko, 2014, 423) responsible for protecting the right of access to information

[10] For more details on ways of submitting a request and the request's contents, see Art. 18 of the ARAI. Art. 18, para. 5 of the ARAI defines what is NOT considered a request. The total number of received requests from 2004 to 2015 is available at http://www.pristupinfo.hr/o-povjereniku-za-informiranje/, (accessed 4 March 2018).

[11] On ways of initiating an administrative procedure, see Arts. 40-43 of the General Administrative Procedure Act, Official Gazette, No. 47/09 (hereinafter: GAPA).

[12] See. Art. 19. of the ARAI.

[13] According to Art. 13. para. 1 and 3 of the ARAI. See also Art. 22 para. 1 and 3 of the ARAI from 2003.

[14] See Art. 23 of the ARAI. Para. 1 lists cases in which public authorities do not issue decisions based on submitted requests. Conversely, para. 3, 4, and 5 list cases where a decision is issued. See also Art. 29, para.2 of the ARAI.

[15] On time-limits for deciding on user requests and the extension of these limits, see Arts. 20-22 of the ARAI.

[16] Said test is an assessment of proportionality between reasons to enable access to information and reasons to limit access, and enabling access to information as a matter of public interest. See Art. 5, pt. 7 and Art.16 of the ARAI.

[17] Art. 23, para. 25 of the ARAI prescribes cases when public authorities deny a user's request to access information, and Art. 30, para. 1 defines cases where requests to reuse information are denied.

[18] A public authority shall reject a request if it does not have the requested information or knowledge of where the information is located. Furthermore, if the user fails to correct an incomplete or unclear request within five days of receiving a notice to correct it according to directions given by the public authority from whom the information is requested (if it cannot be determined with certainty which information is being requested).

[19] According to available data (2012-2015) of appeal cases, the highest number of appeals have been lodged in 2014 and the lowest in 2012. There is a high rate of successfully resolved appeals given the number of received and unresolved appeals in a given year. The highest total number of appeals in the process of being handled is found in 2015, at 906. For more information, see http://www.pristupinfo.hr/o-povjereniku-za-informiranje/, (accessed 4 March 2018).

[20] The ARAI uses several different terms such as "user," "party," "applicant." The definition of "user of right of access to and reuse of information" is given in Art. 5, para. 1 of the ARAI.

[21] The Commissioner protects, monitors and advocates the right of access to information and the right of reuse of information. See also Report for 2013, p. 2. Until then, action and jurisdiction in protecting the right of access to information and right of reuse of information were provided by the Personal Data Protection Agency (as defined by amendments to the ARAI in 2011). See also Final Proposal of the Act on the Right of Access to Information, P. Z. E. No. 198, Klasa: 008-02/12-01/04, Ur. broj: 50301-09/06-13-8, 6 February 2013, p. 26,
http://www.sabor.hr/Default.aspx?art=52753&sec=5550, (accessed 25 February 2018). On the appointment, criteria for appointing, jurisdiction, dismissal of the Commissioner, and the organization of the Commissioner's Office, see Arts. 35-40 of the ARAI.

[22] The office of Information Commissioner has been in operation since 25 October 2014. See also Decision on Election of Information Commissioner, Official Gazette, No. 131/13.

and conducting instance supervision, was introduced as the main new addition to the ARAI in 2013 (Bevandić, 2016, 13). Among other appointed responsibilities and activities, the foremost role of the Commissioner is to serve as second-instance body in handling appeals related to exercising the right of access to information and reuse of information.[23] The Commissioner is required to make and deliver (via a first-instance body) a decision on the appeal, within 30 days[24] of submission of an orderly appeal. When the appeal is considered founded, the Commissioner shall, by finality of decision, order the PA to enable the user access to requested information or decide on the request within a reasonable time period. The appeal procedure is regulated by provisions of the General Administrative Procedure Act (hereinafter: GAPA).[25] Compared to the current law, the old ARAI from 2003[26] contained a special procedural provision explicitly regulating the application of provisions of the GAPA.

It is not possible to initiate further procedure by appealing against the Commissioner's decision. The Commissioner's decision on the appeal finalizes the procedure of exercising the right of access to information of public interest in regular procedure. However, the process-law possibility to obtain further legal protection is ensured by filing a single-instance administrative dispute before the HAC.[27]

3. The role of the High Administrative Court of the Republic of Croatia in single-instance administrative disputes, when it rules on the basis of the Act on the Right of Access to Information

In the Administrative Disputes Act of 2010 (hereinafter: ADA),[28] considerable extension of the scope of administrative-judicial control and a legislative solution for the organization of decision-making in administrative disputes were achieved. The structure of the administrative-judicial system in The Republic of Croatia was completely changed and a new one was established by forming a two-instance model of administrative judiciary.[29] The newly established organization was reflected in the problem of distribution of jurisdiction between two instances of administrative judiciary, where the subject of the analysis is the legal definition of the actual jurisdiction of the HAC. According to Art. 12, para. 3 of the ADA, the jurisdiction of the HAC encompasses three tasks. They primarily pertain to: 1) deciding in *appeal procedures*regarding appeals against decisions and rulings of first-instance administrative courts (those against which appeals are allowed), 2) *determining the legality of acts of general application* (objective administrative dispute), 3) deciding on *conflicts of jurisdiction* between administrative courts.

The ADA allows legislators the possibility to assign other additional and specific jurisdictions under the following conditions: 1) by other specific laws, 2) in prescribed cases, 3) when it is deemed necessary. The handling of certain administrative cases is exempted from the jurisdiction of lower-instance courts – in this case, first-instance administrative courts – and is assigned to a

[23] Art 35, para. 3 of the ARAI.
[24] In addition to the 30-day time-limit, other time-limits are prescribed for special procedure cases of 60 (inspecting the regularity of performed test of proportionality and public interest, or performing said test according to Art. 16) and 90 days (when the opinion of the Office of the National Security Council is requested).
[25] Official Gazette, No. 47/09. For recommendations to public authorities related to processing and deciding on citizens' requests and applying the provisions of the GAPA, see Report for 2013, p. 5-6.
[26] "*…unless prescribed otherwise by this Act, in procedures related to exercising the right of access to information, provisions of the General Administrative Procedure Act apply accordingly*…" See Art. 9 of the Act on Right of Access to Information, Official Gazette, No. 172/03.
[27] Art. 26, para. 1 of the ARAI. There is only one article dedicated to provisions on ensuring court protection by initiating an administrative dispute in relation to protecting the right of access to information. See also Art. 30, para. 2 of the ARAI for the procedure of reuse of information.
[28] Administrative Disputes Act, Official Gazette, No. 20/10, 143/12, 152/14, 94/16, 29/17 (hereinafter: ADA). Effective date 1 January 2012. Art. 3 of the ADA.
[29] There are specialized courts: first-instance administrative courts (Zagreb, Split, Osijek, and Rijeka) and the HAC (Zagreb).

hierarchically higher court instance. Of course, exempting certain cases or areas from first-instance jurisdiction is by no means a rule in domestic or comparative law of European countries.

Although the primary role of the HAC is that of a second-instance court, there are certain prescribed cases when it rules as a first- and last-instance court –namely in a single-instance administrative dispute. The HAC also appears in the role of a first-instance court in determining the legality of acts of general application issued by bodies of local and regional government, legal persons with public authority, and legal persons performing public service, as well as in special cases prescribed by law.[30] One out of five specific laws[31] regulatingadministrative-judicial protection before the HAC in single-instance administrative disputes pertains to the analyzed right of access to information. Compared to other special laws, hereit is possible to lodge an appeal[32] in an administrative procedure (also in procedures of public procurement[33] since 2017). Such legal protection is not envisaged in other areas, in which further legal protection is achieved directly by appealing before the HAC, after a decision has been made in an administrative procedure. Thus, decision-making in administrative procedures takes place in a single instance, as does legal protection before the highest court in the administrative-judicial hierarchy.

In light of such considerations, we think it is important to determine the legislator's reasons and intentions, as well as the justification for assigning decision-making to the single instance of the highest specialized court within the administrative judiciary. What then is the specificity of the chosen administrative area, to warrant organizing legal protection in such a form? Can we reasonably expect an extension of the area in which single-instance jurisdiction of the HAC is predicted? By analyzing provisions of special laws, we will point out some specificities which can be used as criteria for introducing exceptions to the Croatian system of administrative judiciary. These regard the following characteristics: 1) choosing certain special administrative areas/administrative matter, 2) the primary criterion for choosing particular administrative cases lies in the specificity and importance of the chosen matter; 3) certain decision-makers (types of bodies)[34] whose rulings (usually Decisions) in administrative procedures cannot be appealed against; 4) different process-law position (the procedure before the HAC is different compared to disputes before first-instance administrative courts and possible appeal procedures); 5) panel decision-making to improve professionalism and knowledge (according to amendments to the ADA from 2012, first-instance decisions in the administrative judiciary are made by an individual judge); 6) the urgency of the procedure and decision in chosen cases before the HAC.

[30] Art. 12, para. 3, pt. 4 of the ADA.

[31] Law on Local and Regional Self-Government, Official Gazette, No. 33/01, 60/01, 129/05, 109/07, 36/09, 125/08, 36/09, 150/11, 144/12, 19/13, 137/15, 123/17, Electronic Communications Act, Official Gazette, No. 73/08, 90/11, 133712, 80/13, 71/14, 72/17, Competition Act, Official Gazette, No. 79/09, 80/13, Public Procurement Act, Official Gazette, No. 120/16 (from 2017).

[32] See Image 1.

[33] See the fourth part, "Legal Protection" (Art. 398-433) of the Public Procurement Act, Official Gazette, No. 120/16.

[34] Decisions by Information Commissioner, decisions by the Ministry of Public Administration and decisions by the Government of the Republic of Croatia. Next, decisions by the Croatian Competition Agency, decisions and other administrative acts by the Croatian Regulatory Authority for Network Industries (with the exception of the Authority's decisions in disputes between end-users and operators, against which an administrative dispute may be initiated before the competent local administrative court) and decisions by the State Commission for Supervision of Public Procurement Procedures.

Table 1 Specificities of administrative-judicial disputes in decisions based on the Act on Right of Access to Information

Form of legal (court) protection (whether all cases exclusively require lodging a single-instanceadministrative dispute before the HAC)*	Time-limit for filing the dispute (specificities related to the time-limit for HAC's decision on the dispute/suspensive effect of the dispute)	Type of decision and competent authority that makes the decision	Urgency of the procedure
-*appeal** before the Information Commissioner (Art. 25, para. 1 of the ARAI) -single-instance administrative dispute - HAC (Art. 26, para. 1 of the ARAI)	-30 days (Art. 24, para. 1 of the ADA) *the dispute has a *suspensive* effect * 90 days for the HAC to rule on the dispute	-decision -public authorities -Information Commissioner	-according to previous laws (2003, 2011) -deleted provisions on urgency (2013)

Source: author's own work

3.1. Summary of administrative-judicial protection before the High Administrative Court of the Republic of Croatia in single-instance administrative disputes

The right to lodge an administrative dispute is granted to the user, as well as the PA that made the first-instance decision.[35] Therefore, active legitimation is granted to a first-instance administrative body. The time-limit for lodging a dispute before the HAC is not prescribed. However, here we refer to a provision in Art. 24, para. 1 of the ADA, in which there is a prescribed time-limit of 30 days for lodging a dispute against an individual decision, starting from delivery of the disputed individual decision. The ARAI prescribes a time-limit in which the HAC must resolve the dispute and make a decision. This time-limit is 90 days. We think there is a relatively reasonable time-limit for resolving disputes in this matter.

Another specificity of this special procedure is reflected in the prescribed suspensive effect of the dispute, *in case the decision granted access to information*. This is an exception to the non-suspensive effect of the administrative dispute.[36] Obviously the legislator thought such an exception is justified and necessary in this case, especially given that the dispute may be lodged by the PA in cases where the Information Commissioner has decided that the PA should have allowed the user access to information, which it failed to do. This follows from the legal provisions in Art. 26, para. 2 of the ARAI. Grammatical and logical interpretations of the legal provisions of the ARAI show that, in all other cases, the dispute does not have a suspensive effect. Another characteristic of this procedure is *urgency*, although this is not explicitly prescribed by the current ARAI, as it was in the ARAI from 2003 and 2011.[37] Therefore we conclude that the legislator decided to remove the provisions related to urgency of procedure before the HAC. The reason for the legislator's removal

[35] Art. 26, para. 2 of the ARAI.
[36] See Art. 26, para. 1 of the ADA. Cases in which the court may decide that the litigation has a suspending effect are prescribed in Art. 26, para. 2 of the ADA.
[37] See Art. 17, para. 3 of the ARAI from 2003. See also Art. 17, para. 7 of the Act on Amendments to the ARAI from 2011.

of the provisions on urgency of procedure was not mentioned or explained in the Final proposal of the ARAI from 2013.[38]

In light of the above, we conclude that the legal position of citizens using the information is strengthened in relation to PAs. We would also like to point out that, when it comes to administrative-judicial protection, legal provisions of 2011 explicitly stated which government bodies' decisions cannot be disputed against. The only administrative dispute allowed was before the Administrative Court of the Republic of Croatia.[39] This was not the case in other novelty provisions before and after 2011. Therefore, it was necessary for the legislator to depart from the structure of the general concept of administrative judiciary in this matter, in several directions: 1) granting active legitimation to a first-instance body, 2) suspensive effect of the dispute, 3) urgency of the procedure of deciding and resolving a case (in terms of setting a time-limit in which the HAC must reach a decision), 4) administrative-judicial protection via a single-instance administrative dispute (availability of a single and final instance within the system of administrative-judicial protection) before the HAC.

Upon analysis of court practice of the HAC in the observed period (2012-2017), on the basis of received data, we can conclude that, in terms of decision method, the HAC has largely denied dispute applications as unfounded (Art. 57 of the ADA), in all the observed years (2013-9 (64.29%), 2014-33 (91.66%, 2015-18 (90%), 2016-27 (81.82%), 2017-91 (74.59%), except 2012. This indicates that decisions by the Information Commissioner were lawful in 75% of administrative disputes, given thatthe VUS confirmed the Commissioner's decisions.We also note that the highest number of administrative disputes were handled in 2017, when an additional 27 unresolved cases were recorded. Dismissals of disputes (Art. 30, para. 1 of the ADA) and acceptances of dispute applications (Art. 58 of the ADA) were much rarer than rejections of dispute applications.This also speaks in favor of the quality of the Commissioner's work. Also, from analysis of the *Report on the Implementation of the Act on Access to Information from 2013 to 2016*,[40] we notice an increasing trend in the number of appeals after changes to the ARAI from 2013, which continued until 2015, and resumed increasing in 2016 (1015 appeals). The efficacy of the Commissioner increased, so that in 2016 the number of resolved cases for the first time surpassed the number of received applications.[41] The highest number of appeals are due todenial of request or so-called administrative silence (60-66%). With existing capacities, the Commissioner resolved approximately 500 appeals per year. We should also point out there are insufficient and inadequate capacities for handling cases, in terms of number of officials, shortness of time-limits, observance of prescribed limits, familiarity with and application of provisions of the APA and ARAI, and the urgency of procedure. Another important consideration is that backlogs and delays in resolving cases are also due to an increased number of received appeal applicationsowing to increased citizens' awareness of their rights, and that appellants largely lodge appeals directly to the Commissioner, and in this way prolong the duration of the procedure. Among appellants, the highest percentage are natural persons (citizens), and the appeals were largely placed before units of local and regional government and central public administration bodies. In summary, we conclude that fast and efficient action and cooperation with the Commissioner are of key importance to resolving cases.[42]

---

[38] See explanation of Art. 26 of the Final proposal of the ARAI from 2013, p. 31. Reasons for adopting a new ARAI in 2013 and the envisioned consequences of its adoption are given only a two-page explanation (p. 25-26).
[39] Art. 13, para. 8 of the Act on Amendments to the ARAI from 2011.
[40] Reports are available on http://www.pristupinfo.hr/dokumenti-i-publikacije/, (accessed 5 March 2018).
[41] Continuous backlog, accumulated largely in the period between 2013-2015, had led to an increasing number of unresolved cases (283 in 2014, 380 in 2015) – a trend that ended for the first time in 2016. For more information see *Report on the Implementation of the Act on Access to Information for 2015*, Zagreb, March 2016, p. 31, http://www.pristupinfo.hr/dokumenti-i-publikacije/, (accessed 5 March 2018).
[42] For more details see *Report on the Implementation of the Act on Access to Information* for 2015, p. 66.

Table 2 *Overview of administrative-judicial action of the High Administrative Court of the Republic of Croatia based on the Act on Access to Information in a single-instance administrative dispute*

HIGH ADMINISTRATIVE COURT OF THE REPUBLIC OF CROATIA		2012	2013	2014	2015	2016	2017
	Accepted	-	1	1	2	4	3
	Rejected	1 | 1*	3	1	-	1	-
	Denied	-	9	33	18	27	91
	Suspension of AD	-	1	1	-	1	1
	Unresolved	-	-	-	-	-	27
	TOTAL	**2**	**14**	**36**	**20**	**33**	**122**

Source: author's own work (using data from the High Administrative Court of the Republic of Croatia)

4. Final observations

The importance of the analyzed area of administrative law is revealed in the availability of information to every domestic or foreign natural or legal person. This information is necessary in making decisions in various life situations, from taking action in an individual legal procedure, to making private or professional decisions, and it is also an instrument for achieving transparency and openness in the operation and decisions of PAs. It is also a very specific areaof administrative law, connected to a number of other fundamental rights.

The Commissioner and the HAC are granted an important role in interpreting and correctly applying provisions on access to information and improving practice in this area. Citizens' awareness of their right to access information, as well as the possibilities of exercising this right, should be further promoted. Another positive fact is the possibility of inquiry into the judicial practice of the HAC, as well as many documents, expert analyses, reports and publications, and other needed data on the Commissioner's Internet pages, which makes access to required data easier.

In handling administrative and appeal procedures, an important feature in protecting the right to access information is the Commissioner as an independent government body. By analyzing available reports on the implementation of the ARAI to gain insight into the work of the Commissioner in making appeal decisions, we affirm that users of information express trust in the reliability and professionalism of the Commissioner in correcting mistakes and recognizing and removing unlawfulness in procedure and decision-making. Another fact supporting this is that most administrative disputes ended by rejecting applications as unfounded.

The criteria and reasons thatmay justify providing legal protection via a single-instance administrative dispute before the HAC rely on the fact that this is a constitutional right, that there is a need for more specialization within the administrative judiciary and for decisions by a panel of judges (not an individual judge), on the specificity of the area, and the urgency of the procedure. In light of this, we mayarguethatdesignating the HAC for resolving disputes is justified. The intention of the legislator is understandable, and such a solution to protection of rights may seem acceptable. However, we could also ask if the said arguments are truly sufficient to justify deviation from the general regime of administrative-judicial organization and from direct access to the HAC? Can the right of access to information be set aside as more important compared to other constitutional rights (of an equivalent level)? We think first-instance administrative courts (especially according to the former concept of panel-based ruling according to the ADA from 2010) could be assigned jurisdiction in cases related to the right of access to information. The said courts also decide on other constitutional and conventionally guaranteed rights and freedoms, but also on much more complex matters which directly affect citizens' quality of life. Given that appeals are also handled by a single person within the institute of Commissioner, and considering the number of lodged appeals, we may conclude in favor of granting jurisdiction to first-instance administrative courts. In light of the above, there is no reason to set a different treatment in providing court protection of the right of access to information.

REFERENCES

Articles

Bevandić, D. (2016): *Osvrt na prvu novelu hrvatskog Zakona o pravu na pristup informacijama* [An overview of the first novel of Croatian Act on the Right of Access to Information], Fondacija Centar za javno pravo, No. 25, pp. 13-25

Đanić, A., Vajda Halak, Ž. (2013): *Dostupnost i uvjeti ostvarivanja zaštite prava građana na pristup informacijama u javnoj upravi* [Availability and Terms of Exercising the Protection of Citizens' Rights to Access Information in Public Administration], Zbornik radova III. Međunarodne konferencije “Razvoj javne uprave”, Vukovar, pp. 379-391

Đerđa, D., Popovski, A. (2011): *Postupak ostvarivanja prava na pristup informacijama kao posebni upravni postupak* [The Procedure of Exercising the Right of Access to Information as a Special Administrative Procedure], Hrvatska pravna revija, Vol. 11, No. 1, pp. 25-30

Rajko, A. (2010): *Implikacije uvrštavanja prava na pristup informacijama javnog sektora u Ustav Republike Hrvatske* [Implications of Including the Right to Access Public Sector Information in the Constitution of the Republic of Croatia], Hrvatska javna uprava, Vol. 10, No. 3, pp. 629-649

Rajko, A. (2011): *Antinomije u hrvatskom zakonodavstvu na području informacijskoga upravnog prava* [Antinomies in the Croatian Legislation in the Area of Information Administrative Law], Fondacija Centar za javno pravo, No. 6, pp. 1-26

Rajko, A. (2014): *Novi zakon o pravu na pristup informacijama–geneza i otvorena pitanja* [The New Act on Right to Access Information – Genesis And Open Questions], Zbornik radova Pravnog fakulteta u Splitu, Vol. 51, No. 2, pp. 415-427

Tropina Godec, Ž. (2009): *Informiranost građana i slobodan pristup informacijama javnog sektora* [Well-Informed Citizens and Access to Public Sector Information], Hrvatska javna uprava, Vol. 9, No. 2, pp. 323-340

Vidaček, I., Škrabalo, M. (2014): *Exploring the Effects of Europeanization on the Openness of Public Administration in Croatia*, Hrvatska i komparativna javna uprava, Vol. 14, No. 1, pp. 149-187

Legal regulations

Act on the Right of Access to Information, Official Gazette, No. 172/03

Act on the Right of Access to Information, Official Gazette, No. 25/13, 85/15

Administrative Disputes Act, Official Gazette, No. 20/10, 143/12, 152/14, 94/16, 29/17

Amendment of the Constitution of the Republic of Croatia Official Gazette, No. 76/10

Constitution of the Republic of Croatia, Official Gazette, No. 55/90, 135/97, 8/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10, 05/14

Council of Europe Convention on Access to Official Documents, Council of Europe Treaty Series-No. 205, https://rm.coe.int/1680084826, (accessed 26 February 2018)

General Administrative Procedure Act, Official Gazette, No. 47/09

Documents

Decision on Election of Information Commissioner, Official Gazette, No. 131/13

The final proposal of the Act on the Right of Access to Information, P. Z. E. br. 198, Klasa: 008-02/12-01/04, Ur. broj: 50301-09/06-13-8, 6 February 2013, pp. 1-39, http://www.sabor.hr/Default.aspx?art=52753&sec=5550, (accessed 25 February 2018).

The final proposal of the Act on the Right of Access to Information, P. Z. E. br. 832, Klasa: 022-03/15-01/39, Ur. broj: 50301-09/06-15-7, 2 July 2015, pp. 1-45

List of Public Authority Bodies for 2015, http://www.pristupinfo.hr/popis-tijela-javne-vlasti-31-12-2015/, (accessed 23 February 2018)

Proposal to Amend the Constitution of the Republic of Croatia, Committee on the Constitution, Standing Orders and Political System, Klasa: 012-02/10-01/01, Ur. broj: 6521-1-10-06, 15 June 2010, pp. 1-23

Report on the Implementation of the Act on Access to Information for 2013, Zagreb, 31 March 2014, pp. 1-64

Report on the Implementation of the Act on Access to Information for 2015, Zagreb, March 2016, pp. 1-174

Internet sources

http://www.sabor.hr/konacni-prijedlog-zakona-o-izmjenama-i-dopunam0021, (accessed 20 February 2018)

http://www.pristupinfo.hr/tijela-i-sluzbenici-za-informiranje/, https://uprava.gov.hr/popisi-i-ostale-informacije/1084, (accessed 23 February 2018)

https://data.gov.hr/dataset/azurirani-popis-tijela-javne-vlasti, (accessed 23 February 2018)

mr.sc. Antun Marinac, senior lecturer
Polytechnics in Požega
Postal Address: Vukovarska 17, 34 000 Požega
Phone: 00385 98 931 6055 Fax:
E-mail address: amarinac@vup.hr

THE ROLE OF CONSTITUTIONAL PROVISIONS IN ENCOURAGING DEVELOPMENT OF ALL CROATIAN TERRITORIES WITH A VIEW TO EASTERN CROATIA

ULOGA USTAVNIH ODREDBI U POTICANJU RAZVOJA SVIH PODRUČJA HRVATSKOG TERITORIJA S OSVRTOM NA ISTOČNU HRVATSKU

ABSTRACT

As a part of the thematic unit "The Role of Law in Economic Development", this paper analyses the constitutional provisions aimed at encouraging the development of all areas of the state territory of the Republic of Croatia. This applies in particular to the constitutional provisions that prescribe: the state's responsibility for the development of all its territories, the protection of areas of interest for the Republic of Croatia, the duty of the state to assist financially weaker units of local self-government in accordance with the law and the obligation of the Republic of Croatia to achieve the objectives of the European Union. In that context, the paper tries to answer to what extent these constitutional provisions contribute to the developmental position of the Eastern Croatia. The relationship between the prescribed responsibility and the effectiveness of the state is also observed. From the research methodology, the following methods are used: normative method, secondary research, comparative method, historical method, analysis method and statistical method. The fundamental problem noted in the paper is that the region of the Eastern Croatia, in the latest results of the development index of December 2017, is still at the bottom of economic and social development. Therefore, the question of the effectiveness of constitutional norms is logically challenged. In this connection, the question arises as to why the East Slavonia is developing slower than most parts of Croatian territory, despite the prescribed constitutional responsibility of the state. In addition to analysing the provisions of the Croatian Constitution, the paper also provides comparative overview of constitutional provisions encouraging the development of all parts of the state territory in other European countries: Italy, Spain, the Federal Republic of Germany and Switzerland. It is concluded that constitutional provisions that encourage the development of all state areas are not found only in the Croatian Constitution but also in the constitutions of some European states. However, the effectiveness of constitutional provisions depends on a range of political, economic, cultural and other factors.

Key words: *efficiency, EasternCroatia, responsibility, regional inequality, Constitution.*

SAŽETAK

U sklopu tematske cjeline "Uloga prava u razvoju gospodarstva", u radu se analiziraju ustavne odredbe koje su usmjerene na poticanje razvoja svih područja državnog teritorija Republike Hrvatske. To se posebice odnosi na ustavne odredbe koje propisuju: odgovornost države za razvoj svih svojih krajeva, zaštitu područja od interesa za Republiku Hrvatsku, dužnost države u pomaganju financijski slabijih jedinica lokalne samouprave u skladu sa zakonom te obvezu Republike Hrvatske u *ostvarenju ciljeva Europske Unije. U tom kontekstu pokušava se doći do odgovora, u kojoj mjeri navedene ustavne odredbe doprinose razvojnom položaju Istočne Hrvatske. Pri tome se promatra odnos propisane odgovornosti i djelotvornosti države. Od metodologije istraživanja, u radu se koriste sljedeće metode: normativistička metoda, sekundarna istraživanja, komparativna metoda, povijesna, metoda analize te statistička metoda.Temeljni problem koji se uočava u radu je taj što regija Istočna Hrvatska, u najnovijim rezultatima indeksa razvijenosti iz prosinca 2017. godine i dalje ostaje na dnu gospodarskog i društvenog razvoja. Stoga se logično nameće pitanje djelotvornosti ustavnih normi. S tim u svezi, postavlja se pitanje, zašto se Istočna Slavonija sporije razvija od većine dijelova hrvatskog teritorija, unatoč propisanoj ustavnoj odgovornosti države. Osim analize odredbi hrvatskog Ustava, komparativno se daje prikaz ustavnih odredbi koji potiču razvoj svih krajeva državnog teritorija i u drugim europskim državama: Italiji, Španjolskoj, Saveznoj Republici Njemačkoj te Švicarskoj. Dolazi se do zaključka kako su ustavne odredbe koje potiču razvoj svih državnih područja aktualne ne samo u hrvatskom Ustavu nego i u ustavima nekih europskih država. Međutim, djelotvornost ustavnih odredbi, zavisi o nizu političkih, gospodarskih, kulturnih i drugih čimbenika.*

Ključne riječi: *djelotvornost, Istočna Hrvatska, odgovornost, regionalne nejednakosti, Ustav.*

1. Introduction

The aim of this paper is to try to establish the responsibilities of the public authorities set forth by the constitutional provisions in encouraging the development of all areas of the Croatian territory. On this basis, it is necessary to evaluate the effectiveness of constitutional norms, especially in the territory of Eastern Croatia.

In the common coexistence of all citizens in the political community, one of the important issues of mutual interest is the issue of harmonious development of all areas of the state territory. Although the territorial political community is viewed as a whole, in its constituent parts (narrower political communities) there are not always uniform conditions of life or equal opportunities for development.

Consequently, constitutional provisions play an important role in encouraging the development of all areas, both in the Republic of Croatia and in some European countries.

2. Analysis of Constitutional Provisions Aimed at Encouraging the Development of All Areas of the State Territory of the Republic of Croatia

2.1. State responsibility for the development of all its regions

As part of the constitutional responsibility of the Heads of Government for Equal Development, important is constitutional responsibility of the State for the "economic development of all its territories", referred to in Article 49, paragraph 3 of the Constitution. The aforementioned constitutional provision on "the concern of the State for the economic development of all its territories " represents a certain variant of the principle of balanced regional development.Several legal experts commented on the above-mentioned constitutional provisions. BrankoSmerdel states: "the Constitution establishes the duty of the Republic to encourage economic progress and social welfare of citizens and take care of the economic development of all regions"[1]. BrankoBabac interprets this constitutional provision in a way that "all people and regions enjoy equal opportunities in their own developmental capacities and in association with others in the state and

[1]Smerdel, B.: Ustavno uređenje europske Hrvatske, Narodne novine, Zagreb, 2013., p. 338.

local self-government, and is associated with a steady development[2].Vedran Đulabić critically comments on the above mentioned constitutional provision, stating: "Although concerned about the economic development of all regions, pursuant to Article 49, paragraph 3 of the Constitution of the Republic of Croatia, constitutes a constitutional category and is listed in the chapter on economic, social and cultural rights of the Republic of Croatia, regional politics in the modern sense for long has not been able to find an adequate place in the system of public policy of the Republic of Croatia[3].

Such constitutional determination provides the basis for further legal and sub-legal elaboration of economic measures that would affect the equitable development of all regions. This applies in particular to the Law on Spatial Planning, the Law on Strategic Investment Projects of the Republic of Croatia, the Law on Investment Promotion and the Enhancement of the Investment Environment, the Law on the Promotion of Entrepreneurial Infrastructure.

2.2. Protecting areas of interest for the Republic of Croatia

Article 174, paragraph 3 of the Treaty on the Functioning of the European Union[4] there are areas in which the Union pays special attention. These are the following: rural areas, areas subject to industrial transition and regions exposed to serious and permanent natural or demographic difficulties, such as the northernmost regions with very low population density and the islands, borderland and mountain regions.

Similarly, Article 49 of the Constitution of the Republic of Croatia[5] states that special protection of the state is given to areas that are legally determined to be of interest to the Republic of Croatia. Areas that are legally determined to be of interest to the Republic of Croatia and have special protection are islands, mountainous areas and the City of Vukovar. In addition to the previously mentioned areas, the law also defines areas of special state concern. These areas are also areas with developing disabilities.

The city of Vukovar enjoys a special status in the development policy system due to its role in the Croatian War of Independence and the special symbolic significance of the herocity, and a special Law on Reconstruction and Development of the City of Vukovar[6] was adopted. Article 1, paragraphs 1 and 2 of this Law "provide incentive measures for the speedy reconstruction and development of the City of Vukovar and remove the consequences of destruction of buildings and other consequences arising during the Croatian War of Independence", and it is cited that "reconstruction and development of the City of Vukovar are of interest to the Republic of Croatia".The Law on Areas of Special State Concern establishes[7]"areas of special state concern in order to achieve a more equitable development of all areas of the Republic of Croatia, stimulate demographic and economic progress, completion of the reconstruction program, return of pre-war population and permanent housing care" (Article 2, paragraph 1). In relation to these, "the rights derived from this Law shall be exercised by natural persons who are resident and reside in areas of special national concern, settlers in these areas and legal entities having their headquarters or tradesmen residing in areas of special state concern (Article 1, paragraph.2).

---

[2]Babac, B.: Promišljanje obnove hrvatske županije s motrišta financialnoga – predhodni iskazi: u Zborniku radova: „Financiranje lokalne samouprave – Jedinice lokalne samouprave u poreznom sustavu Republike Hrvatske, Pravni fakultet Osijek, Osijek, 1999., p. 107.

[3]Đulabić, V.: Novine u regionalnom razvoju I regionalnoj politici, Rad predstavljen na savjetovanju Instituta za javnu upravu „Kakva reforma lokalne samouprave?“, Zagreb, 22.04. 2010., p. 7. i 8.

[4]Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, Official Journal of the European Union 2010/C 83, 30.3.2010.

[5]Ustav Republike Hrvatske, Narodne novine, br. 85/10. – pročišćeni tekst, 05/14.

[6]Zakon o obnovi I razvoju GradaVukovara, Narodne novine br. 44/01, 90/05, 80/08, 38/09, 148/13

[7]Zakon o područjima od posebne državne skrbi, Narodne novine br. 86/08, 57/11, 51/13, 148/13, 76/14, 18/15

2.3. The State's duty toassist financially weaker local self-government units in accordance with the law

The constitutional responsibility of the State in assisting the weaker units of local self-government is enshrined in Article 138, paragraph 3 of the Croatian Constitution, which reads: "The state is obliged to assist financially weak local self-government units in accordance with the law“. This provision is aligned with Article 9, paragraph 5 of the European Charter on Local Self-Government regarding protection of financially weaker local units.

Related to the help to local government units from state budget, some authors gave their opinion. ZvonimirLauc emphasizes the following: "For a more balanced development of individual units of local self-government, solidarity is needed, which is achieved by the state being responsible to help financially weaker local self-government units"[8].In this connection,BrankoSmerdel argues: "There is always a problem of economic strength and financial resources, as small communities often cannot provide funding for their needs and development and remain dependent on different forms of funding and help from the centre[9].

The basic laws, key for the implementation of the above-mentioned constitutional provisions and the exercise of the right to assist the financially weaker local and regional units are: the Law on Financing the Units of Local and Regional Self-Governmentand the Law on Regional Development.

2.4. Obligation of the Republic of Croatia to implement the objectives of the European Union

Pursuant to Article 143, paragraph 1 of the Constitution, it is defined that the Republic of Croatia as a member of the European Union, in addition to ensuring lasting peace, freedom, security and prosperity, participates in the pursuit of other common goals , in accordance with the fundamental principles and values on which the European Union is founded.

Among the fundamental political goals of the European Union, in accordance with Article 3 of the Treaty on European Union, is to promote economic, social and territorial cohesion and solidarity among the Member States. As part of economic, social and territorial cohesion, the Union's goal is to "reduce the differences between the level of development of the various regions and the lagging behind of less developed regions" (Article 174).Although the principle of cohesion has been supplemented in the primary law of the EU (from 1986 to 2009, "economic and social cohesion" and from 2009 until now "economic, social and territorial cohesion"), it has retained its basic objective to this day - balanced development of all regions of the Union. The principle of economic, social and territorial cohesion is fully ensured through the ratification of the Lisbon Treaty, and the key feature of cohesion policy is to reduce the differences between the various regions at EU level[10]. Cohesion Policy of the European Union as one of the oldest and most financially prominent policies in addition to the basic objective of reducing regional disparities includes a number of other measures and principles to improve living conditions in regions with developing disabilities[11].

---

[8]Lauc, Z.: Funkcioniranje jedinica lokalne samouprave – pravni aspekt: u Priručniku: Lokalna samouprava i građani, Organizacija za građanske inicijative, Osijek, 2005., p. 3.

[9]Smerdel, B., Sokol, S.: Ustavno pravo, Četvrto izmijenjeno izdanje, Narodne novine, Zagreb, 2009., p. 402.

[10]Marinac, A., Budić, H, Hak, M.: Utjecaj proširenja Europske unije na razvoj Europske regionalne politike, Zbornik radova 1. interdisciplinarne znanstveno-stručne konferencije s međunarodnim sudjelovanjem „Održivi razvoj ruralnih krajeva“, Gospić, 17.-18.10.2013., p. 172.

[11]Marinac, A., Budić, H., Hak, M.: Uloga kohezijske politike Europske unije u poboljšanju kvalitete života u nerazvijenim regijama, Zbornik radova 2. interdisciplinarne znanstveno-stručne konferencije s međunarodnim sudjelovanjem „Održivi razvoj ruralnih krajeva“, Gospić, 20.-21.11.2014., p. 57.

2.5. The question to what extent constitutional provisions contribute to developmental position of Eastern Croatia

According to the Law on Regional Development of the Republic of Croatia, the Ministry of Regional Development and Funds of the European Union carries out the process of assessing and classifying all units of local and regional self-government in the Republic of Croatia according to the development index. It represents an appropriate indicator of measuring the degree of development of local and regional self-government units over a given period. It is also calculated for counties and for local self-government units, which is used to classify them into development groups and identify segregated areas[12].

Article 2 of the Development Index Regulation, Official Gazette, no. 131/17 determined that the development index is calculated on the basis of the following indicators: unemployment rates, per capita income, local and regional self-government units' per capita revenues, general population trends, education rates and aging indices.

Table 1 *Values of development index and indicators for calculation of development index according to new model of calculation at county level*

	County	Development group	Index
1.	City of Zagreb	4	117.758
2.	Istrian County	4	108.97
3.	Dubrovnik-Neretva County	4	108.58
4.	Zagreb County	4	105.89
5.	Primorje-GorjeCounty	4	105.278
6.	Zadar County	3	104.654
7.	Split-Dalmatia County	3	103.93
8.	VarazdinCounty	3	101.713
9.	Međimurje County	3	100.502
10.	Krapina-Zagorje County	2	98.976
11.	Koprivnica-Križevci	2	98.493
12.	Šibenik-Knin County	2	97.041
13.	**Osijek-Baranja County**	**2**	**96.009**
14.	Karlovac County	2	95.191
15.	**Požega-SlavoniaCounty**	**2**	**93.947**
16.	**Brod-Posavina County**	**1**	**93.449**
17.	Bjelovar-BilogoraCounty	1	92.576
18.	Lika-SenjCounty	1	92.387
19.	**Vukovar-SrijemCounty**	**1**	**91.992**
20.	Sisak-Moslavina County	1	91.701
21.	**Virovitica-Podravina County**	**1**	**90.666**

Supported areas

Source: Published results of the new development index, available at:https://strukturnifondovi.hr/objavljen-rezultati-novog-indeks-razvojenja/published on 12.12.2017, accessed on 29.03.2018

From the table above, it can be seen that from 21 counties, 12 are under-developed in Croatia and have a status of supported area, including all 5 counties from the Eastern Croatia. The Eastern Croatia, which is made up offive counties, is still at the bottom of economic and social development in the latest results of the development index of December 2017. Therefore, the question of the effectiveness of constitutional norms is logically challenged. In this connection, the question arises as to why the East Slavonia is developing slower than most parts of Croatian territory, despite the

[12]Strategija regionalnog razvoja Republike Hrvatske do kraja 2020. Vlada RH, Zagreb, lipanj, 2017., p. 72.

prescribed constitutional responsibility of the state. In that context, the question of the effectiveness of constitutional norms is raised.

According to Branko Smerdel, "the real effectiveness of constitutional norms is, however, not a legal issue. The effectiveness of constitutional restrictions and guarantees depends on a range of political, economic, cultural and other factors[13].

The effectiveness of constitutional norms related to encouraging the development of all areas of Croatian territory depends on a number of factors, such as: regional organization centralization and decentralization, established cohesion policy, solidarity,projects and investments, promotion of the principles of equality, equal living conditions and equal opportunities, etc.

3. Comparative representation of constitutional provisions that encourage the development of all parts of the state territory in selected European countries

3.1. Italy

The promotion of the regional development policy in Italy is focused on the economic aspect in order to compensate for the differences between the southern and northern regions of Italy since the unification of 1861.

Article 119 of the Italian Constitution[14], and in particular paragraph 5 there of, is essential for the achievement of a balanced development of the Italian state territory. It reads: "For the purpose of promoting economic development, cohesion and solidarity, the elimination of economic and social inequalities, in order to facilitate the effective exercise of the rights of citizens, or to ensure the normal exercise of jurisdiction, the State shall allocate additional resources and shall in particular intervene in favour of certain municipalities, provinces, cities and regions". This constitutional provision highlights several principles necessary for the development of the political community: a) a principle of balanced regional development aimed at eliminating the economic and social inequalities of the territory; b) solidarity ("charitable national solidarity" with self-managing units with less fiscal capacity per capita intended for economic and social cohesion of the country) and c) cohesion (orientation to complement the European Cohesion Policy).

The state, based on the above-mentioned constitutional provision, carries out public interventions and allocates special funds for the development of underdeveloped areas. The aim of government interventions is to distribute a fair tax burden, mitigate inequalities in income distribution, and in particular to protect the weaker and the fight against poverty. Compared with other forms of financing, additional transfers have specificity, which can be assigned specifically to only some areas, but not to all. Areas where additional resources are addressed do not have to be located in the south and on the islands, but they must be identified within the national territory.

For the purpose of achieving the above-mentioned constitutional goals, the said constitutional provision elaborates certain laws, in particular Law no. 42 on fiscal federalism, of May 5, 2009[15]: "Approval to the Government on issues of Fiscal Federalism, pursuant to Article 119 of the Constitution". Article 16 of the Law entitled "Intervention under the fifth paragraph of Article 119 of the Constitution"prescribes principles and criteria for the purpose of implementing a balanced regional development.

---

[13] 15. Smerdel, B.: Konstitucionalizam i promjena vlasti, Zbornik Pravnog fakulteta u Zagrebu, vol. 50, 1-2/2000., p. 10.

[14] Costituzionedella Repubblica Italiana, Gazzettaufficiale 27 dicembre 1947, n. 298.

[15] LEGGE 5 maggio 2009, n. 42, Delega al Governo in materia di federalismofiscale, in attuazionedell'articolo 119 dellaCostituzione, La Camera deideputatiedilSenatodella Repubblica, (09G0053) (GU n. 103 del 6-5-2009)

The second important constitutional provision is the constitutional guarantee of the establishment of the Equalization Fund for the benefit of areas where the per capita fiscal capacity is contained in paragraph 3 of Article 119 of the Italian Constitution, which prescribes "the State Law establishes the Equalization Fund for the distribution of tax revenues, without limitation on the allocation of funds in areas with lower tax revenues per capita".The Constitution does not make limitations on the allocation of funds. The funds allocated from this fund do not have a binding destination. The Fund was established by Legislative Decree no.23/2001[16].

3.2. Spain

Developing differences between the Spanish autonomous communities had a decisive influence on the acceptance of the decentralization process. In addition, they also influenced the acceptance of the principle of inter-regional solidarity, which received its constitutional term in Article 2 of the Constitution of Spain.

Unity, autonomy and solidarity are the underlying principles of the Spanish territorial model. This is confirmed by Article 2 of the Constitution, which reads: "The Constitution is based on the unbreakable unity of the Spanish nation, the common and indivisible homeland of all the Spaniards, the nations and regions that make up the nation, and it recognizes and guarantees the right to autonomy and mutual solidarity."

In the Preamble to the Spanish Constitution[17], the State commits itself to "promote economic progress and ensure a dignified and quality life for all“. The Preamble of the Constitution confirms the will of the people for democratic coexistence within the Constitution and the Laws, on the basis of economic and social order, to promote the economy's prosperity in order to ensure a dignified quality of life. Other constitutional requirements aimed at encouraging the development of all parts of the Spanish territory relate to:
- constitutional responsibility of public authorities for social and economic progress and fairer distribution of income (Article 40, paragraph 1),
- constitutional obligation of public authorities to equalize the standard of living of all Spaniards (Article 130, paragraph 1),
- constitutional responsibility of the State: planning of balance and alignment of regional and sectorial development (Article 131, paragraph 1),
- State's duty to ensure a fair balance between the various parts of the Spanish territory (Article 138, paragraph 1) and
- constitutional guarantee of the minimum level of basic public services throughout the Spanish territory and the obligation to establish the Fund to correct the development imbalance (Article 158, paragraph 1).

3.3. Federal Republic of Germany

The constitutional system of the Federal Republic of Germany (Ger.*Bundesrepublik Deutschland*) was designated by the Federal Constitution of 1949, also called the *Grundgesetz*(Basic Law)[18].

The difference between the German countries, especially the West and the East Germany, has become obvious after the unification. Therefore, it was necessary to find a mechanism to eliminate those differences. For this reason, the arrangement of relations in the German state in all areas of

[16]Decreto Legislativo n. 23/2001., recante „Disposizioni in materia di federalismofiscalemunicipale”
[17]Constitución Española, Aprobadapor Las Cortes ensesionesplenarias del Congreso de los Diputados y del Senadocelebradas el 31 de octubre de 1978, Ratificadapor el pueblo españolenreferéndum de 6 de diciembre de 1978, Sancionadapor S. M. el Rey ante Las Cortes el 27 de diciembre de 1978.
[18]Grundgesetzfür die Bundesrepublik Deutschland 23.05.1949.

socio-political life has been implemented in accordance with the principle of equal living conditions throughout the federal territory.

The principle of the responsibility of the governing institutions for equality of living conditions throughout the federal territory is mentioned in the German Federal Constitution in the following places:
a) Federal State's responsibility to establish equal living conditions throughout the federal territory by the adoption of a law (Article 72, paragraph 2);
b) responsibility of the Federal Government and states to improve living conditions through joint efforts to improve the regional economic structure (Article 91a),
c) Federal State's responsibility for the uniformity of living conditions throughout the federal territory through the distribution of taxes (Article 106, paragraph 3, item 1).In addition, the following constitutional provisions are significant for the equitable development of the German federal territory:
d) constitutional basis for financial equalization of different provincial financial forces (Article 107, paragraph 2),
e) constitutional basis for financial assistance for particularly important investments in countries and communities (Article 104b , para.1, items 1, 2 and 3) and
f) constitutional permission for reorganization of the federal territory (Article 29).The application of the principle of equality of living conditions throughout the country in political practice has led to the fact that the supply of public goods from roads through schools to cultural institutions in all the federal countries is almost equal. Germany is a desirable destination for life and workto many foreigners.

3.4. Switzerland

The structure of government in Switzerland was determined by the 1999 Constitution of the Federal Republic[19]. It includes the responsibility of the governing authorities for balanced development and cohesion in the following provisions relating to:
- promoting common good, sustainable development and cohesion (Article 2, paragraph 2),
- joint action of the federal state and cantons in achieving a balanced economic development (Article 100, paragraph 1,I 2),
- constitutional responsibility of the Confederation for supporting the regions in economic problems (Article 103) and
- financial equalization of the burdens of costs (Article 135).

4. Conclusion

Constitutional provisions aimed at promoting the development of all areas of the state territory are present in the Constitution of the Republic of Croatia, but also in some constitutions of European countries (for example Italy, Spain, the Federal Republic of Germany and Switzerland).

The provisions of the Constitution of the Republic of Croatia play a significant role in encouraging the development of all areas of Croatian territory, but they are not effective in the entire territory, and this is especially apparent in the Eastern Croatia. The effectiveness of constitutional norms related to encouraging the development of all areas of the Croatian territory, besides the quality legal framework, depends on a number of factors, such as regional organization and the optimal distribution of regions, centralization and decentralization (such as Italy and Spain) conditions (as in the Federal Republic of Germany), but also to other factors. The ineffectiveness of constitutional

[19]Federal Constitution of the Swiss Confederation, of 18 April 1999 (Status as of 7th March 2010).

provisions is particularly evident in the example of the Eastern Croatia, according to the latest development index.

One of the most significant reasons for continued developmental abandonment (since the declaration of independence of the Republic of Croatia) is that the region of the Eastern Croatia is not a complete European region with self-governing status.Therefore, with the necessary implementation of the regionalization of the Croatian territory, as possible solutions to development problems, the author specifically proposes the efficient use of funds from the EU funds and the greater responsibility and effectiveness of government institutions.

REFERENCES

Babac, B.: Promišljanje obnove hrvatske županije s motrišta financialnoga – predhodni iskazi: u Zborniku radova: „Financiranje lokalne samouprave-Jedinice lokalne samouprave u poreznom sustavu Republike Hrvatske, Pravni fakultet Osijek, Osijek, 1999.

Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, Official Journal of the European Union 2010/C 83, 30.3.2010.

Constitución Española, Aprobadapor Las Cortes ensesionesplenarias del Congreso de los Diputados y del Senadocelebradas el 31 de octubre de 1978, Ratificadapor el pueblo españolenreferéndum de 6 de diciembre de 1978, Sancionadapor S. M. el Rey ante Las Cortes el 27 de diciembre de 1978.

Costituzionedella Repubblica Italiana, Gazzettaufficiale 27 dicembre 1947, n. 298.

Decreto Legislativo n. 23/2001., recante „Disposizioni in materia di federalismofiscalemunicipale"

Đulabić, V.: Novine u regionalnom razvoju i regionalnoj politici, Rad predstavljen na savjetovanju Instituta za javnu upravu „Kakva reforma lokalne samouprave?", Zagreb, 22.04. 2010.

Federal Constitution of the Swiss Confederation, of 18 April 1999 (Status as of 7th March 2010).

Grundgesetzfür die Bundesrepublik Deutschland 23.05.1949.

Lauc, Z.: Funkcioniranje jedinica lokalne samouprave – pravni aspekt: u Priručniku: Lokalna samouprava i građani, Organizacija za građanske inicijative, Osijek, 2005.

LEGGE 5 maggio 2009, n. 42, Delega al Governo in materia di federalismofiscale, in attuazionedell'articolo 119 dellaCostituzione, La Camera deideputatiedilSenatodella Repubblica, (09G0053)(GU n. 103 del 6-5-2009)

Marinac, A., Budić, H, Hak, M.: Utjecaj proširenja Europske unije na razvoj Europske regionalne politike, Zbornik radova 1. interdisciplinarne znanstveno-stručne konferencije s međunarodnim sudjelovanjem „Održivi razvoj ruralnih krajeva", Gospić, 17.-18.10.2013., str. 172.

Marinac, A., Budić, H., Hak, M.: Uloga kohezijske politike Europske unije u poboljšanju kvalitete života u nerazvijenim regijama, Zbornik radova 2. interdisciplinarne znanstveno-stručne konferencije s međunarodnim sudjelovanjem „Održivi razvoj ruralnih krajeva", Gospić, 20.-21.11.2014.

Objavljeni rezultati novog indeksa razvijenosti, dostupno na: https://strukturnifondovi.hr/objavljeni-rezultati-novog-indeksa-razvijenosti/ objavljeno: 12.12.2017., pristup: 29.03.2018.

Smerdel, B., Sokol, S.: Ustavno pravo, Četvrto izmijenjeno izdanje, Narodne novine, Zagreb, 2009.

Smerdel, B.: Konstitucionalizam i promjena vlasti, Zbornik Pravnog fakulteta u Zagrebu, vol. 50, 1-2/2000.

Smerdel, B.: Ustavno uređenje europske Hrvatske, Narodne novine, Zagreb, 2013.

Strategija regionalnog razvoja Republike Hrvatske do kraja 2020. Vlada Republike Hrvatske, Zagreb, lipanj, 2017.

Uredba o indeksu razvijenosti, Narodne novine, br. 131/17.

Ustav Republike Hrvatske, Narodne novine, br. 85/10. – pročišćeni tekst, 05/14.

Zakon o obnovi i razvoju Grada Vukovara, Narodne novine br. 44/01, 90/05, 80/08, 38/09, 148/13

Zakon o područjima od posebne državne skrbi, Narodne novine br. 86/08, 57/11, 51/13, 148/13, 76/14, 18/15

Zoran Pavlović, PhD*, Full Professor
University of Business Academy, Law Faculty,
Head of the Department for Criminal Law
E-mail address: zoran.pav@hotmail.com

CHALLENGES OF ECONOMIC ACTIVITIES TO THE CRIMINAL LAW

KAZNENOPRAVNI IZAZOVI ZAŠTITE PRIVREDNIH DJELATNOSTI

ABSTRACT

Contemporary economic activities are completely endangered by economic crime, which affects the security of economic activities and financial - legal system causing the damage and the consequences on the different socio-economic levels. Frequent changes in the political system of government organization, and many other property relations, affected the mutual relations and behaviour of perpetrators of criminal offenses against the economy, which are often ahead of a country as a whole, and also ahead of all competent authorities, that have a role in finding adequate answers to the questions and the challenges of the phenomena of the commercial criminal. Criminal law challenge of the protection of commercial activities was increased particularly because of the existence of generalizations in criminal law, started with undefined concepts as are economy, relations in the economy and similar ones. Illegal activities although formally obtained in the same way as the legal ones are, do not belong to the domain of business/commercial business. Freedom and equality in business are the most important in criminal law protection of the economic activities, rather than the protection of economic activity per se.

Economic and social transition, and European integration processes that have characterized the 21st century, bring new incriminations and other views on traditional values. Not only the protection of property, businesses, financial stability, but also the protection of the legal security and public order are part of the values that are associated with economic activities, whether in criminal or other law. Specifying the object of protection and the concrete place in the law, avoiding the definition of prohibited conduct which overlaps each other could create opportunities for achieving better results in accordance with principles of constitutionality and legality.

***Key words**: legal certainty, object of protection, appropriate place of the economic crime, the principle of legality.*

SAŽETAK

Savremene privredne delatnosti ugrožene su u svojoj ukupnosti delovanjem privrednog kriminaliteta, koji utiče na sigurnost ekonomskih aktivnosti i funkcionisanje finansijsko-pravnog poretka, sa štetom i posledicama na različitim socijalno-ekonomskih nivoima. Privredni kriminal tamna je strana razvoja i povezivanja u svetu, odraz nestabilnosti pojedinog pravnog sistema. Podjednako je potrebno da država kao celina odnosno zakoni, sudije, tužioci, policija i drugi državni subjekti daju privrednom kriminalu odgovarajuću težinu, pronalazeći adekvatne odgovore na pitanja i izazove ovog fenomena. Zadatak nije ni malo lak, jer pojmovi kao što su privreda, privredni odnosi i slično predstavljaju određenu vrstu generalizacije u kaznenom pravu, što nas upućuje na povećani oprez u primeni zakona. Nedozvoljene delatnosti, iako se formalno obavljaju

na isti način kao i dozvoljene, ne ulaze u privredno poslovanje. Kod kaznenopravne zaštite privrede, u prvi plan treba staviti slobodu i ravnopravnost u privređivanju, a ne zaštitu privrednih delatnosti per se.
Ekonomska tranzicija i procesi evrointegracija koji karakterišu 21.vek, donose i nove inkriminacije i druga viđenja tradicionalnih vrednosti. Zaštita imovine, privrede, finansijske stabilnosti, ali i pravne sigurnosti i javnog poretka, samo su neke od vrednosti koje se povezuju sa privrednim delatnostima, bilo to u krivičnom ili drugom zakonu. Preciziranjem zaštitnog objekta i mesta u zakonu, uz izbegavanje definisanja zabranjenih ponašanja koja se međusobno preklapaju moglo bi dovesti i do mogućnosti za bolje rezultate, uz puno poštovanje ustavnosti i zakonitosti.

***Ključne riječi**: pravna sigurnost, zaštitni objekat, mesto privrednog kriminaliteta, načelo zakonitosti.*

1. Initial consideration

Criminal offenses in the field of economic crime are not only a matter of law, but also a matter of ethics, as it may seem to follow the idea of the Mafia Don Gaspar Motolo that *people prefer to be in prison and to keep their money, but to remain free without any money*, but also of the economy, because revenues from these illegal activities are higher than, for example, the turnover of the entire automotive world industry. We forget about the immediate causes of serious crime, we do not fully implement the adopted regulations, and the results have not yet been moved much further than from the modest ones. However, the legal order is constantly reacting to the upgrading of the system of combating economic crime, through the creation of a legal framework that will also increase the efficiency of this fight.[1]
It is clear that the upgrading of the legal framework in this area does not necessarily imply new forms of appearance in the criminal world, but it is often formal and legal, a new criminal offense, respecting the principle of legality[2]. This means that the applicable law at the time of the commission of a criminal offense, with the prohibition of the return of the criminal law, is in full compliance with the provision of Article 7 paragraph 1 of the European Convention for the Protection of Human Rights and Fundamental Freedoms[3].
The essential goal of combating economic crime is the preservation and development of democracy, the basic values of a healthy economic system, and the efficiency of the judicial system. The benefit (or damage) resulting from economic crime is jeopardizing the differently valued legal values, bearing in mind individual legal regulations throughout the world. In the broadest sense, criminal acts against the economy can include inclusive number of crimes[4] as the previous crimes from which the property gain is derived from *contra legem*, and states can themselves determine that only specific criminal or all criminal offenses are considered as previous crimes. The previous crimes should include the least serious offenses. Criminals choose only the most favorable conditions and countries, in which the authorities have difficulties in controlling them or even work together with

---

*Zoran Pavlović, PhD, e-mail: zoran.pav@hotmail.com
[1] Serrano, M.&Kenny, P. The Int'l Regulation of ML, GLOBAL INSIGHTS, Global Governance 9(2003); pg. 434
[2] Stojanović, Z., Commentary of the Criminal Code, Belgrade, 2006. The principle of legality in criminal law has four parts: *Nullapoena sine legescripta, nullapoena sine legepraevia, nullapoena sine legecertainullapoena sine legestricta*. Common to these rules is the principle that the law that prescribes a criminal offense and sanctions only work for the future.
[3] Article 7, para. 1. The ECHR provides that no one shall be held guilty of a criminal offense for committing or forfeiting, which did not constitute a criminal offense under domestic or international law at the time it was committed. Likewise, a more severe punishment than the one prescribed at the moment of the commission of the criminal offense cannot be imposed.
[4] The system of previous criminal offense according to the "all crime models" model is a complete novelty in our criminal law, since this principle is not applied in other criminal offenses.

them. Prohibited weapons trade, cultural goods trade, human organs trade, terrorism, drug trafficking, prostitution, corruption, all these crimes, in addition to other crimes, generate extremely high amounts of dirty money. By the prevention, detection, prosecution and trial of perpetrators of the criminal offense of Money Laundering, the world received only one weapon to seize property gain acquired through prohibited actions.[5]

Thanks to many factors, our being is not limited to one territory, country and staying in one place. The development of science, technology and modern advancement also influenced *the perfected business* of criminals. The developed informatics society, the widespread, connected and fast trade and development of roads, transport ones and virtual ones, have led to the connection of unprecedented proportions not only in everyday life, but also in the world of crime. Economic criminality is an international phenomenon, which is why it needs to be treated globally, and to be regulated in a global context, because only a joint fight against crime will bring results. The supranationality of this phenomenon originates from international and communitarian communities by its origin, and by its content has become an unavoidable rule widespread in various legal orders. Through the fight against economic crime, we come to one form of *legal cosmopolitanism* in the legislations of countries that have already accepted to serve the goals of protecting the economic and legal system. Linking crime brings the need for linking legal norms in national and international law, which in their prevention and sanctioning of economic crime find their *Esperanto*, their supranationalism.

Accepting international legal rules through the upgrading of its rules leads to an increasing involvement of a country in international and regional cooperation flows. These are the legal measures available to the international community and certain countries for the detection and suppression of the mentioned crime. Harmonization and adjustment of rights in the area of prevention and detection of economic crime is becoming slowly a part of legal reality.

The law itself does not fulfill its role only by standardizing and sanctioning, but also by preventing prohibited or harmful phenomena that obstruct or deform all-round freedom (from human rights to economic liberalism). In such a role, the right is an active factor, and not just a passive system. In terms of economic development, we can say that the right prevents all behavior that impedes the free functioning of the market, especially the procedures that restrict or unfairly introduce competition in the business.

In preventing and revealing economic crime, we are talking about a special part of the legal science that has touch points also with international public law, constitutional law, criminal law and procedure, misdemeanor law, criminal responsibility of legal persons, international private law, banking law, insurance law and so on. All these branches of law are, when we talk about economic criminality, intertwined, complement and touch each other. Therefore, this regulation cannot be said to belong to only one branch of law, but it is a legal *novum* that regulates the prevention and sanctioning of economic criminality, in the process of creating legal rules created in international professional circles, in international governmental and non-governmental organizations and associations, which are the driving force behind the development of national law.[6]

In creating a solution in national, primarily criminal legislation, the principles of unity, harmonization, harmonization and the adoption of rules of a truly international legal / public order must be followed. These principles, as previously noted, should be binding on all modern states in different jurisdictions. Unified and harmonized regulations are particularly important in the areas of money laundering, organized crime and corruption. By being active in certain international integration processes, by competing for entry into other international and communitarian integrations, the equalization of legal solutions with these other solutions has become part of the daily life of both the Republic of Serbia and the surrounding countries.

---

[5] Financial Intelligence Processing Unit, C.T.I.F.-C.F.I.:Excerpts from the annual report 2001/02, Brussels,2002, pg.25

[6] Perhaps the most common, but not the most precise, would be to say that this is a special part of the financial law.

By creating a truly international public order in the field of economic crime, it is required from national legislations, including ours, to accept standards that will allow giving a unique response to the fight against the rather specific forms of crime-the protection of fundamental rights and human freedoms, the free movement of people, of capital and commodities, economies, etc.

2. Determination of Economic Criminal Offenses in Criminal Law

Economic crime causes damage and consequences on different socio-economic levels[7]. It represents the dark side of the cultural and technological development of humanity and making connections in the world. It is equally necessary that the state as a whole, judges, prosecutors, the police and others give the appropriate weight and attention to the economic crime, as well as allocate sufficient funds in order to punish the responsible persons.[8] This task is not an easy one at all, because concepts such as economy, economic relations, and similar ones represent a certain kind of generalization in criminal law which leads us to significantly increased caution in the application of the law. The determination of criminal offenses' place that sanctions economic crime is a topic that has certainly not been completed yet, even after more than 10 years since the implementation of the Criminal Code (CC)[9] since Chapter XXII of the Criminal Code - criminal acts against the economy,[10]*per se* does not mean that they save solely economy. The use of the term economic for this type of crime can mislead us, and let us ignore the extent to which its consequences reach in any (other) forms of life and work.
In foreign legislation, criminal offenses related to economic crime are found in different heads of criminal substantive legislation, from property (for example, the Kingdom of Belgium), the economy (the Republic of Italy, the Kingdom of Spain) to the judiciary (e.g. Switzerland, Colombia). Council of Europe Recommendation 12/81, as a general guideline, in economic crime, regardless of its place in criminal legislation, includes the emergence of association and cartel creation, avoidance of regulations related to taxation and monetary transactions, fictitious (phantom) firms, creation of illicit funds, etc. According to the Council of Europe recommendation[11] and its conceptual framework, economic crime affects a large number of individuals, society and the state as a whole, damages the functioning of national or international

[7]See.Augsburger-Bucheli, I. Institute for the Fight against Economic Crime, Prevented Measures to Combat Economic Crime and Organized Crime in Switzerland, ILCE 2005 Proceedings of the ILCE, cites examples of criminal offenses of money laundering, violation of insurance rights, competition rules , stock exchanges, fraudulent bankruptcy, fiscal fraud, insurance fraud, customs, etc.
[8]Pavlović, Z., Bošković, A., (2015) Journal of Eastern European Criminal Law, No. 2/2015 Timisoara - Pecs, 81-92.
[9] "Official Gazette of the Republic of Serbia", no. 85/2005, 88/2005-Ex., 107/2005-appro., 72/2009, 111/2009, 121/2012, 104/2013 and 108/2014. The Criminal Code entered into force in September 2005 and started on January 1, 2006.
[10] In accordance with the Recommendation of the Committee of Mines of Member States SE. R (81) 12 from 1981. our legislator in this chapter of the Criminal Code classified criminal offenses of forgery of money (Article 223), forgery of securities (Article 224), forgery and misuse of payment cards (Article 225), forgery of signs for the value (Article 226), making, acquiring and giving other means of forgery (Article 227), issuing checks and using non-covered payment cards (Article 228), tax evasion (Article 229), non-payment of tax on deduction abuse of a position of a responsible person (Article 234), smuggling (230), money laundering (231), abuse of monopoly position (232), unauthorized use of another's business name and other special marking of goods or services (Article 233) , abuse of public procurement (Article 234a), bankruptcy (Article 235), causing a false bankruptcy (236), damages of the creditor (Article 237), abuse of power in the economy (Article 238), violation of business reputation and credit competence (l. 239), disclosure of trade secrets (Art. 240), disabling control (Article 241), unauthorized production (Article 242), illicit trade (Art.243), misrepresentation of purchasers (Article 244), forgery of signs and / or state agents for marking of goods, criteria and objects of precious metal (Article 245).
[11] Quotation from SE report Situation report on organized crime in 2005

economy[12] and causes loss of faith and trust in the economic system, putting crime as the centre of activity and gaining profit as such.

The specificities of criminal legislation in the Republic of Serbia have been additionally strengthened by the existence itself and making of economic offenses, misdemeanor liability, criminal responsibility, as well as the responsibility of legal persons for criminal offenses, although these last mentioned jurisprudences are still at the very beginning.

The development of professional ethics and the established way of control or control, as well as the ignorance of the real impact on the economy, which some criminal offense within economic (economic) criminality undoubtedly has, contributes to the lack of and slow decision-making in particular cases before the courts. The phenomenon that many courts have successfully dealt with much easier and more classical criminal offenses, than criminal acts that jeopardize the economy, is present in many countries in the world, for example, and in the Netherlands, Germany or Italy. Therefore, here we can freely mention Serbia, without exception in any part of the country, where in the courts the largest number of unresolved cases from chapter XXII - against the economy. The Criminal Code does not define the concept of an economy or economic system, but defines the concept of a business entity[13]. Putting in the same plane, at least formally, all forms of capital. Illegal activities, although they are formally performed in the same way as allowed ones, do not enter into business. In the criminal justice protection of the economy, the freedom and equity of business should be put into the forefront, not the protection of economic relations by themselves. Criminal legislation provides additional protection for securing equal conditions of business for all entities, that is, free space in which economic and market mechanisms will operate, which should have positive effects for all members.[14]

3. An Example and A Few Questions

An example that can show how difficult it is to determine this place in a separate part of the criminal legislation is the proceedings that are led before the Special Organized Crime Branch of the Higher Court in Belgrade, such as ones against the DS and others, where the first in a series of indictments in Chapter XXII of the CC - Criminal acts against the economy was raised 7 years ago. Their final verdicts in the regular course of the trial were largely absent, except decisions based on the agreement of the prosecutor and some of the accused, which does not say so much about the inefficiency of our judicial system, but a lot about the exceptional complexity and inaccuracy of the mentioned issues. Problems related to the proving of the committed criminal offenses do not usually occur in the so-called criminal acts. General criminality, but precisely in the case of criminal offenses against the economy. The reasons are not only in criminal procedural solutions, but also in the specifics of incrimination, insufficient specific definition, the organization of the execution of these crimes by the accused, but also in the specificity of the business as a whole.

An unauthorized sale of the narcotic drug - cocaine, done by organized crime group (OCG) led by the DŠ came to over 20 million Euros of cash, for which he asked himself the question of his fraudulent entry into legal flows, but also the subsequent same way of exit, through the cause of bankruptcy or liquidation. In seeking a response to this task, professionals with many years of experience in economic and legal professions were engaged. This money was not even spent by

---

[12] According to the 2003 Economic Crime Survey, which examines 89 from the list of 1000 companies, in 24 years, 24% were economically hurt by 15% of money laundering, 60% of fraud, 20% of cybercrime, and 18% of corruption..http://pwcglobal.com/gx/eng/cfr/gecs//PwC_GECS03_switz_eng.pdf

[13] In Chapter XII of the Criminal Code, Article 112. The meaning of the term: item 21, the business entity is considered to be an enterprise, another legal entity engaged in an economic activity and an entrepreneur (which is a newly introduced category in relation to the situation before the entry into force of the Criminal Code in 2006 .). A legal entity that, in addition to its core business, performs economic activities, is considered a subject of economic activity only when it violates this activity.

[14] Taken from Stojanović, Z. Commentary of the Criminal Code, Belgrade, 2012, p. 536.

buying a large number of houses, apartments or luxury motor vehicles. Economic experts (among them were two PhDs) had the role of finding a way that would allow the placing of dirty money into the economic system of Serbia, but also into some other countries, too. Legal experts had a task to give economic transactions a form/shape, thus completing the entry of dirty money and its conversion to the economy.

By establishing a large number of *off shore companies* and other types of companies, part of the money was created or kept as type of unauthorized mainly monetary funds, so-called: black funds. From those mentioned black funds, funds mainly were invested directly in the Republic of Serbia's payment system operations, and secondly were used for leasing some agricultural land, and were been invested in the assets of companies and financing of their business, purchasing, takeovers, as the part of the privatization process and financing the purchase of a large number of various other real estates, in this way they were hiding the funds' origin. The managers of the two banks used the money of an organized criminal group on several occasions by using their official authority by carrying out its conversion and transfer. *Offshore companies* were used to transfer money from one account to another, from country to country, in order to make that money ultimately legal. The legal basis for doing this was the conclusion of fictitious contracts by which money was transferred without actual realization of the contract, mainly services, which were designated as a *causative contract.* When depositing cash into the banks, despite bank's *compliance*, and thanking/owing to the bank managers, there were no alarms that would have been reported to the Administration for the Prevention of Money Laundering.[15]

In this way, the long-term damage to the economic system of Serbia has been inflicted, whose consequences will be felt for a long time. The multi-million dollar contribution to the economic system of the Republic of Serbia of illegally obtained money, for which there was evidence that it had been obtained through the criminal offense of illicit traffic in narcotic drugs, has eroded one of the basic (main) postures of the functioning of the economy: the principle of free/open market competition that is based on the fair competition of the market participants. Members of an organized criminal group, among which some still did not have judgments against themselves, had extremely high amounts of cash, which they did not have to use in accordance to the elements of economic logic. Starting point, without previous assessing the cost-effectiveness of the investments in which the funds will be invested, in the procedures of purchasing of companies, privatizations and taking lease of agricultural land was not at the same level as of the other participants in the market competition. This led, as a matter of fact, to burning down of the principles of loyal competition for other economic entities that had legally acquired capital and who estimated the cost-effectiveness of investments into which OCG members uncritically invested their dirty money (hiding its origin in this way) to the ground as the Roman Emperor Nero did to the Rome. In this way, other market participants who had already paid taxes and other fees for their capital, had to give up on investments and placement of their money, because they could not follow the offers that had been given by the organised criminal group.[16] The defendants were taking out any meaning/worth from the purchasing of the companies in privatization process, because they were paying their obligations to the Republic of Serbia and the Privatization Agency by the assets of the privatized companies, that is, by withdrawing cash into "black funds" and then granting loans to the acquired companies themselves, making the business of Galatias worthy of the attention of Poirot![17]

The protection of economic activities through the provisions of criminal legislation precisely in this case has shown the whole range of problems, pointing out that it is not only about delinquencies against the economy, but also against property and official duty. The phenomenological diversity

[15]Pavlović, Z., Status of evidence obtained abroad, Conference Prevention of Organized Crime as a Precondition for the Rule of Law, Belgrade, 2016, p. 149-159

[16]Pavlović, Z., Bošković, A., (2015) Journal of Eastern European Criminal Law, No. 2/2015 Timisoara - Pecs, 81-92.

[17]http://www.blic.rs/vesti/hronika/nova-presuda-za-saricevog-jataka-zoranu-opicicu-sest-godina-zatvora/zlz564j visited on 06/06/2015.

shown in the above-mentioned real case indicates that economic crime is more quickly adapted to new circumstances than the legislative can handle which undermines the basics of economic justice and harms not only individuals, but the society as a whole.[18]

"Dirty money" privatization processes had been completed in a way that the members of the competent services went controlling one by one economic entity following its business, but not the new owners and companies all at once, together. The authorities, in this way, in the beginning, literally understood the opinion of the Roman Emperor Vespasian that the money has no smell. *Pecunia non olet*. Therefore, in this way, the opportunity for stopping these processes had been missed out. At one point, while the companies were not devastated yet and thousands of people were left unemployed, this robbery privatization done with money from the black sphere could have been stopped much earlier. Damage is irreparable.

On the other hand, criminal legislation did not follow changes in business operations, so the changes that were made after these privatizations and without the economic logic were mainly late, but all the time without respecting the basic legal principles.

4. Conclusion

When defining the problem and analyzing the criminal offenses that sanction the delicts related to the economy and business activities in the Serbian legislation, one should not ignore the context in which this will be done! Criminal law has a number of incriminations against the economy, whose development begins in the era of the former Yugoslavia. Some criminal offenses against the economy were created in the economic environment of a socialist self-governing society, in accordance to the social and economic norms back then, without real and excessive contact with radically changed legal and economic relations, and the changed dominant form of ownership and the system that left social ownership and self-management. Insufficient level of development of economic activities and inadequately regulated work of the national market does not mean that the existing solutions need not be amended. But this should be done by following all the tasks of preventive and repressive nature. Solving these tasks should, in no way, jeopardize the fundamental principles of criminal law as a whole, starting with the principle of legality. The legality principles or, the timeliness of the law, must be respected regardless of possible consequences that may cause them, with full confidence in them. Subsequent correction of observed shortcomings must not be at the expense of the principle of legal certainty. Criminal offenses against the economy protect various values, but regardless of the legal systematic, these are always the values of the foreseen *iuscogens* of international and national criminal law. The violation of the basic principles in the epilogue provokes the reaction of the highest guardians of constitutionality and legality, through the institution of a constitutional complaint, or before the European Court of Human Rights. Especially when it comes to changes in criminal legislation that is notonly *contra legem*, but *contra constitutio*. The final judgments in the DS case, known widely as *the Balkan Warrior's case*, were obtained earlier in Uruguay and Italy, than in Serbia. And in Slovenia, the decision of the appellate court in the DT case[19], which is part of the organized criminal group of the DS, is already pending, which was sentenced to 16 years in prison. The implications of criminal offenses related to the illicit sale of narcotic drugs are registered in the field of criminal law protection of property, health, economy, and official duties and other. The question of the reasons for such a long wait for the verdicts before the Serbian courts is not only a procedural nature or a question of proof, but an answer should also be sought in insufficiently determined norms of criminal legislation.

---

[18]Pavlović, Z., International legal standards for confiscation of property arising from the criminal act, 141-153, Proceedings of Economic Crimes, Institute for Criminological and Sociological Research, Institute for Comparative Law, Belgrade, 2017

[19]http://www.novosti.rs/vesti/planeta.300.html:717787-Slovenackom-kokainskom-klanu-nova-osudjujuca-presuda

Social development and the accelerated dynamics of the change in economic relations must be accompanied by an adequate reaction to criminal legislation. Complex social relations result in the execution of complex crimes, which are carried out against a protective object, and the consequences are seen in other or more protective structures. Therefore everyone, who does not comply with legal rules in the economy, is consequently jeopardized. This means that economy and business should not be neglected in the criminal justice sense, but they should just give them a precise place and incrimination, with appropriate sanctions.
That is why this paper and the proposal for the reconstruction of criminal legislation, considering the introduction of new criminal acts in the protection of economic business, as an introduction to the previously set goal of protecting the respect of legal rules in the economy.
Respecting the legal rules in business that would have been known in advance.
Traditional values that were protected by criminal law as a whole today are different than 10 years ago or more. Transitional processes and processes of euro integrations that have characterized the 21st century bring new incriminations and protection of property, economy, financial stability, as well as legal certainty and respect for the public order.
The competent authorities would speeded up a way difficult finding of a response to economic crime by specifying a protective object and place in the law, and by avoiding defining the prohibited behaviours that overlap each other, which could all lead to the possibility for obtaining better results, with full respect for constitutionality and legality, as a standard without which the development of society cannot go forward.
The abolition of certain criminal offenses, since their *expirationdate has expired*, and the incrimination of the current prohibited acts must always be fully in line with the confirmed principle of legality, the prohibition of retroactivity and other principles, without making a construct of a legal disinclination or the continuity of a previously envisaged criminal offense with prescribed new criminal offense.

REFERENCES

Serrano, M. & Kenny, P. The Int'l Regulation of ML, GLOBAL INSIGHTS, Global Governance 9 (2003);

Stojanović, Z., Commentary of the Criminal Code, 2006. Official Gazette, Belgrade

Augsburger-Bucheli, I. Institute for the Fight against Economic Crime, Preventive measures for the fight against economic crime and organized crime in Switzerland, Proceedings of the ILCE 2005 Institute.

Pavlović, Z., Bošković, A., (2015) Journal of Eastern European Criminal Law, No. 2/2015 Timisoara - Pecs,

Pavlović, Z., Status of evidence obtained abroad, Conference - Combating organized crime as a precondition for the rule of law, Belgrade, Institute for Comparative Law, Belgrade, 2016

Pavlović, Z., International legal standards for confiscation of property arising from the criminal offense, Zbornik - Economic Crimes, Institute for Criminological and Sociological Research, Institute for Comparative Law, Belgrade, 2017

Convention for the Protection of Human Rights and Fundamental Freedoms, Rome, 1950, Belgrade, Council of Europe 2017.

Financial Intelligence Processing Unit, C.T.I.F.-C.F.I.:Excepts from the Annual Report 2001/02, Brussels, 2002

Economic Crime Survey from 2003 http://pwcglobal.com/gx/eng/cfr/gecs//PwC_GECS03_switz_eng.pdf

http://www.blic.rs/vesti/hronika/nova-presuda-za-saricevog-jataka-zoranu-skopicu-sest-godina-zatvora/zlz564j

http://www.novosti.rs/vesti/planeta.300.html:717787-Slovenackom-kokainskom-klanu-nova-osudjujuca-presuda

Vesna Škare Ožbolt, LL.M.
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7.
Phone: 00385 1 352 7850
E- mail: vesna.skareozbolt@gmail.com

STATE PROPERTY- UNUSED POTENTIAL IN THE ECONOMIC DEVELOPMENT OF CROATIA

DRŽAVNA IMOVINA - NEISKORIŠTENI POTENCIJAL U GOSPODARSKOM RAZVOJU HRVATSKE

ABSTRACT

Republic of Croatia is the owner of more than a million real estate relating to the construction land, apartments, business premises, military objects, a shareholder in more than four hundred enterprises and owner of business shares in almost two hundred companies. According to the size ofthe property fund Croatia is one ofthe richest countries ofthe European Union, while according to the management and usage method within the poorer ones. All the state property is not registered at one place, its condition is unknown as well as its value and the way it can be put into function. The present state property register, the so called state register, is incomplete, for certain forms of property insufficient, and there is no registry for some forms of property at all.The state has been searching for the best model of a real estate management for already twenty years. In the meantime it sells (sells-off), with lots of problems its best real estate parts. If the aim ofthe state property activation is only the decrease of the public debt, then it is a short-term policy which results in the non-recurring flow of funds to the state budget.Croatia needs the best model ofan integral real estate management in order to put the real estate into function and fill the state budget, not non-recurring, but for a long-term period. This requires certain institutional changes.
The aim ofthe work is to indentify general preconditions for an effective state property management, such as establishing of a unique state property register, classification of state property and costs and income management, in order to fulfill the needs ofthe economic development to the best possible way.With the real estate management of a better quality through the establishment of aclosed state property fund from which the real estate would be given into a long-term concession, the state could achieve a long term income.

Key words: *state property, central register, real estate fund, state property classification.*

SAŽETAK

Republika Hrvatska vlasnik je više od milijun nekretnina i to građevinskog zemljišta, stanova, poslovnih prostora, vojnih objekata, dioničar je u više od četiri stotine poduzeća te vlasnik poslovnih udjela u gotovo dvjestotinjak tvrtki. Po veličini nekretninskog fonda Hrvatska je jedna od najbogatijih zemalja europske Unije dok se po načinu upravljanja i korištenja nekretnina nalazi se među siromašnijima.Sva državna imovina nije evidentirana na jednom mjestu, ne zna se u kakvom je stanju i koja joj je vrijednost te na koji način se može staviti u funkciju. Sadašnji registar državne imovine, tzv. državni očevidnik, je nepotpun, za određene oblike imovine manjkav, a evidencija o nekim oblicima imovine ne postoji.Država već dvadeset godina traži najbolji model upravljanja nekretninama. U međuvremenu (ras)prodaje, uz puno problema, svoje najbolje nekretninske

dijelove. Ukoliko je cilj aktivacije državne imovine samo smanjivanje javnog duga, onda je to kratkoročna politika koja se svodi na jednokratanpriljevsredstavaudržavnublagajnu. Hrvatska treba najbolji model integralnog upravljanja nekretninama kako bi se nekretnine stavile u funkciju i prihodovale u državni proračun ne jednokratno, nego dugotrajno. To zahtjeva određene institucionalne promjene.
Rad ima za cilj identificiraniopćepreduvjetezaučinkovitoupravljanjedržavnom imovinom, poput uspostave jedinstvenog registradržavneimovine, klasifikacije državne imovine i upravljanja troškovima i prihodima. kako bi najbolje ispunjavala potrebe razvoja gospodarstva. Kvalitetnijim upravljanjem nekretninama, kroz osnivanje zatvorenog državnog nekretninskog fonda iz kojeg bi se nekretnine davale u dugotrajnu koncesiju, država bi mogla ostvariti trajnije prihode.

Ključne riječi: *državna imovina, središnji registar, nekretninski fond, klasifikacija državne imovine*

1. Introduction

Republic of Croatia owns a large number of valuable properties which should be put into function of economic development and the protection of long-term national interests. According to data from the State Property Register, in total, the Republic of Croatia has 1,042,463 properties, of different types and forms of ownership, of which 27,274 are residential and 7601 business objects.[1]
The state owns shares and ownership stakes in 15 public enterprises, over 50 % shares and stakes in 56 companies, from 25 % - 44,99 % in 30 companies and less than 25 % in 346 companies. Over two million hectare of forests and forest land are the ownership of the state, more than 550 thousand ha of agriculture land, 42,2 million m2 of building land and 10,4 million m2 of buildings with the belonging land. According to the projections the value of state share in the companies and real estate, without forests and agriculture land, amounts to cca 30 billion Euros.[2]Since the declaration of independence (1991), the Republic of Croatia failed to put into operation its rich property fund.There is no doubt that putting the real estate, business premises and agriculture land into function could contribute to the long-term development of the RC. Therefore it is of utmost importance to establish, as soon as possible, the system which will put these valuable properties into function of economic development. There exists a general misunderstanding of the definition of publicproperty as well as some misconceptions and lack of knowledge as to how to carry out its classification.[3] The commercial management of publicproperty has been limited to privatization, sometimes concessions and in the later years to public-private partnership whereas the other alternative ways of the use of this property have rarely been mentioned or implemented in the practice.
There are several registers created for particular types of state property, e.g. Central State Assets Register in the Ministry of state property, Concessions Register in the Ministry of Finance, *Agricultural Land Register* in the Ministry of agriculture, Register of Cultural Goods in the Ministry of culture. However, not all public property is included in these registries, e.g. Register of maritime domain with its most valuable part, the Croatian cost, has never been created. [4]

In 2010 the creation of the Central State Assets Register marked the beginning of the process of the establishment of the unification of recording, assessing and evaluating the state property worth. However, not all property has been recorded in the Central Register; only certain categories have been entered in the database.

[1] Marija Brnić: 15.6.2016,Cilj Vlade: od nekretnina zaraditi 500 milijuna eura; The government's goal: to earn EUR 500 million from real estate;http://www.poslovni.hr/hrvatska/cilj-vlade-od-nekretnina-zaraditi-500-milijuna-eura-314257
[2]lider. media:Uredba o registru državne imovine08/04/2011;https://lider.media/arhiva/125706/
[3]http://www.efzg.unizg.hr/UserDocsImages/HRZZprojekti/Vasicek/Javno%20dobro%20u%20RH%20i%20me%C4%91unarodna%20iskustva.pdf
[4]http://registar-imovina.gov.hr/
http://www.mfin.hr/hr/registar-koncesija
http://data.gov.hr/dataset/registar-kulturnih-dobara

Unresolved real property rights, conflicts of the jurisdiction in the management and control over the use of property, unresolved legal ownership status over the state property (the issue of equalizing legal ownership and the right of use) make the process of value assessing and decision on the way of its use rather complicated.

Due to the lack of continuous, organized and rational management of the property during all the previous years, more attention has been paid to the establishment and inner organization of the institutions dealing with the state property management than to the property. The appropriate management of valuable state property should ensure two key objectives – the preservation of their most valuable parts for the needs of current and future generations. In addition to this, better organization and more efficient and transparent use of state property will create new values and realize bigger economic profits.[5]

2. History of changes in the management of state property

After Republic of Croatia became independent, it was faced with a big portfolio of shares in the companies and the large amount of real estate which were still in the category of social ownership. From 1990 to 1992 the managing of state property was entrusted to the Croatian Agency for Restructuring and Development and the Croatian Development Fund.
Pursuant to the Law on Croatian Privatization Fund (Official Gazette 84/92) since 1992 all activities related to state property were taken over by the Croatian Privatization Fund (in Croatia: Hrvatski fond za privatizaciju - HFP). HFPwas in charge of the process of transformation of ownership, i.e. transformation of socially- owned property to the state-owned property, evaluation of book value of socially-owned enterprisesand their privatization.

Since 1995 the Ministry of Privatization and State Property Management has been formed, however, such a centralized model of managing state property was not efficient as during its work the real power was, in fact, in the particular ministry controlling the big property funds, consisting primarily of flats and other real estate.

The first centralized state property register at the central state level was created in 2001. Central State Office for the Management of State Property issued the Rules on the inquest of property in the ownership of the RC. The Register included only real estate and movable property in the state ownership together with all pertaining rights and obligations.
In the next ten years little has been achieved so that there is still no comprehensive list of state property and database with the information about state property are not updated. In 2011 based on the Law on Management of State Property the Agency for the Management of State Assets (AUDIO) was established as a legal successor of HFP and Central State Office for the Management of State Property. In September 2013 after only 2, 5 years of operating, the
Agency was closed and pursuant to the*Act* on the *Management* and Disposal of Assets owned by the *RC* (Official Gazzette 94/13) the Center for Restructuring and Sale was formed as a legal successor of the Agency. Based on the above Act the management of state property in the ownership of the RC was transferred to the State Administrative Office for StateProperty Management (DUUDI) and Center for Restructuring and Sale (CERP) was formed.
Along with these two entities, the company State Real Eestate Ltd. (Državne nekretnine d.o.o.) was formed with the purpose of management and disposition of certain real estate. In the meantime,

5Grubišić, Nušinović, Roje: Towards efficient public sector asset management, Financial theory and practice. 33 (2009), 3; 329-362 based on the Law on Amendments to the Law on the Organization and Scope of Ministries and other State Administration bodies (Official Gazette 104/16) the 'new' DUUDI has been replaced by the Ministry of State Property which has taken over all activities, staff and documentationfrom the previous office.

Table 1 *List of institutions managing the state property*

1991- Agency for restructuring and development
1991- Croatian fund for development
1992- Croatian Fund for privatization (HFP)
1995- Ministry of privatization and managing of state property
2004- Central state office for state property management
2011-Agency for state property management
2012. State administrative office for state property management (DUUDI)
2013- Center for restructuring and sale
2013- State real estate Ltd.
2016- Ministry of State Property

Source: author selection

The reform startedin 2013, when the Croatian Parliament adopted the State Property Management Strategy for the period 2013-2017 (OG 76/13). This was the first integrated five-year strategy of public sector property.
The strategy contained comprehensive reviews of the analysis and evaluation of the existing management model.
It set medium-term objectives and guidelines for the public sector management to ensure efficient and transparent long-term management and efficient use of assets, as well as to stimulate economic growth and protect national interests.
In addition, the Strategy emphasized the need to set four main management principles: public availability, predictability, efficiency, accountability.[67]

3. Classification of state property

Republic of Croatia is the owner of various types of property from real estate, shares and business stakes to the special types of property such as cultural monuments and national heritage. Classification (public) of property is the key for the establishment of portfolio of usable state property. [8]

Table 2 *Types of state property*

1. Agricultural land
2. Tourist and other building land
3. Forests, forest land and objects managed by the Croatia Forests (in line with special provisions)
4. Flats in the ownership of the RC
5. Business premises in the ownership of RC
6. Mining products (raw material), regulated by special law
7. Roads, highways, railways, bridges, together with pertaining land
8. Property designed for military purpose
9. State property, as per the Act on the Confirmation of Succession Agreement (Offi. Gazette No. 2/04.)
10. Property in the process of the establishment of the ownership right, pursuant to Art. 77 of the Law Restitution/Compensation of PropertyTakenduring the Time of the YugoslavCommunistGovernment

[6]Strategy of Government Assets Management and Disposition from 2013 to 201734 (Official Gazette No. 76/13).
[7]https://imovina.gov.hr/UserDocsImages/arhiva/2014/08/Uputa-o-priznavanju-mjerenju-i-evidentiranju-imovine-u-vlasnistvu-RH(Instruction on valuation, value assessment and registering the Republic of Croatia assets).
[8]Zakon o upravljanju i raspolaganju imovinom u vlasništvu RH (NN,br 94/13.)

11. Property entered in Land Register as social ownership and general population property
12. Property not evaluated in the privatization process
13. buildings: Croatian Parliament, Croatian National Bank, Office of the President of the RC , Government, buildings of ministries courts, state attorney, police, customs office
14. Residential real estate
15. Property under the protection of UNESCO, archaeological sites, cultural goods
16. State budget revenue realized based on the collection of fees for the use of state property (fee for building right and the right of servitude over the land in the ownership of the RC, concession fees, reve from rents, leasing of business premises and agriculture land)
17. Sports objects in the ownership of RC
18. securities (shares and business stakes in the companies owned by the RC, shares and business stake the companies owned by the Croatian Pension Insurance Fund and State Agency for Deposit Insurance
19. gifts to state officials in the value above 500.00 HRK
20. art works
21. money, cash equivalents, savings, gold bullions, international reserves
22. property taken from those who obtained it in the commission of a criminal act or a breach of law
23. electronic communication infrastructure and other related equipment
24. patents and licenses granted to the RC
25. claims by the RC towards other states, physical and legal persons
26. official vehicles, boats and aircrafts in the ownership of RC
27. shares and business stakes in the companies and claims in those companies as well as property sucl business premises and flats which are not yet fully evaluated but are in the ownership of the RC
28. stocks (commodity reserves) of the RC
29. fish and game funds
30. types of property owned by the institutions established by the RC
31. epicontinental belt and protected Ecological - Fishing Zone
32. water structures
33. other types of property in the ownership RC

Source: author selection

4. Register of property

In 2011 Ordinance on the state property register [9]has been issued providing directions about its establishment, content, the manner of keeping the records and the type of data which will are not to be published. The Register is a centralized list of property in the form of shares and business stakes in the companies and real estate in the ownership of the RC, i.e. institutions and other legal persons established by the RC. The register is in the electronic format and is published on the websites of the Ministry of state property.

The register consists of the **list of ownership** of **share in companies and list of real estate**. The list of the ownership shares in the companies consists of the list of shares and business stakes. The list contains the list of companies' shares owned by RC i.e. institution and other legal persons founded by the RC.

The list of shares will also contain data on the companies' shares of owned by the RC, i.e. owned by the institution and other legal persons founded by the RC. The list of real estate includes building land and buildings, agricultural land, forests and forest land, public water resources, real estate objects, business premises, real estate used by the state administration bodies, residential objects and villas and real estate used for the purpose of protection of sovereignty, independence and the defense of territorial integrity of the RC .[10]

[9]https://imovina.gov.hr/objavljen-registar-drzavne-imovine/1349
[10]Uredba o registru državne imovine, http://narodne-novine.nn.hr/clanci/sluzbeni/2011_05_55_1207.html

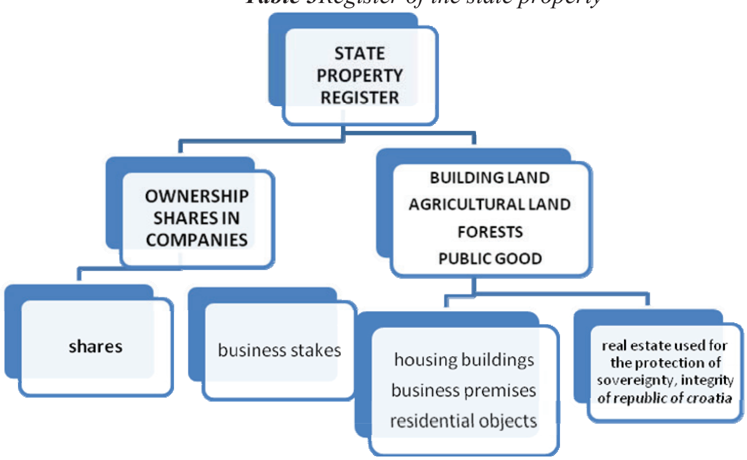
Out of 33 forms of property national or Central State Register comprise 9 forms. National or central Register should be an integral list of state property representing the quality basis for analyses, decision and reporting on public resources i.e. the basis for making decisions on the management of property in public sector.

Such database will ensure rational management of costs of maintenance of property and evaluation of opportunity costs for its alternative use all the while observing the principle of „due care/management". As noted by **Tanzi** and **Prakash** (2000), the establishment of state property national register may provide financial data about public property on the basis of which credit rating of the state central and local administration is determined.

Data in the register need to be precise, accurate and dynamically updated. In consistence with the purpose, the register data are the basis for reaching decision on various forms of property management.

The establishment of state property register represents a continuous development of information system for keeping track, analyzing and reporting on state property management and the related liabilities. Therefore, the register needs to have the characteristics of a standard database. [11]

Table 3*Register of the state property*



Source: authors' selection

5. Management and disposition of state property

During the last 28 years there have been several managers in charge of state property of the Republic of Croatia, however, managingconsisted mainly of privatization socially-owned companies, issuance of concessions and donating of real estate to local self-government but very little or nothing has been done for the preservation and active maintenance of all other property of the Republic of Croatia. The publicpropertymanagementimplies making the decision about its use, the achievement of positive outcomes of property management and the decision on the use of net revenue generated by putting the property in use. The state property management comprises all

[11]Roje, G. (2014.), Osvrt na aktualnosti u području upravljanja državnom imovinom, TIM4PIN Magazin br.10, Centar za razvoj javnog i neprofitnog sektora TIM4PIN, Zagreb.(Roje, G. (2014), Review of Currentity in State Property Management, TIM4PINMagazine No.10, Center for Development of Public and Nonprofit Sector TIM4PIN, Zagreb).

systematic and coordinated activities and best practices which the state invests in the optimal and sustainable management with its property for the realization of its organizational strategic plan. The state property management includes the right to alienation, burden (mortgage), limitation and the waiver of right.
The state property management comprises the acquisition, disposition and the realization of all other ownership rights in compliance with the provisions regulating ownership and other proprietary rights. The use of property includes the use and recollection of gains or profit generated by the state property, without the right of alienation or registration of burdens in the register.[12]Many state enterprises and state institutions in the RC use and manage stateproperty. Apart from publicenterprises, formally owned by the state, such as electricity operators(Croatian energy company - HEP), roads operators (Croatian Roads, HAC)andnationalparks operator (public company National ParkPlitvička Lakes), this category also includes state(government) special-purpose institutions, established for carrying out certain strategic projects at the central or local government level, such as ministries, agencies, etc. All stateproperty operators,established as an enterpriseorspecial-purpose institutions need to carry out the management of the entrusted property, if these activities include the providing of public services. In such cases it is recommended to engage the professional institutions which would take care of the statepropertyactivities. In such cases the responsibility for the integral statepropertymanagement is entrusted to the Ministry of state property.
The goals to be achieved by the system of the integral management of stateproperty owned by the RC are as follows:insight in the scope of and structure of property in the ownership of the RC; supervision over the status of property in the ownership of the RC; higher quality of, and faster decision making about the property management;keeping track of the benefits and impacts of the property management;reporting to the Ministry of Finance based on the data from Central Register.

5.1. State real estate fund

Until today there has not been any relevant analysis about the use of valuable real estate funds in Croatia.[13]Certain number of state real estate was sold directly at public auctions, other were transferred i.e. donated to the local self-government units which then sell them to finance their local needs. It is questionable whether such practice is optimal and what benefits are there for the state if all valuable real estate are sold? Instead of selling the most valuable state real estate it would be wise to elaborate several options and find optimal way how to achieve positive economic outcome for the state.

A large number of real estate are either empty or in a very poor condition. Only putting them in active function will make of them a tangible economic potential. The quality and transparent management is a precondition to recover the real estate in the most efficient and cost-effective way and thus automatically achieving the increase in value? One of the ways towards resolving the problem of the ‘inactive property’ would be that the state decides to form the so-called *'closed real estate fund'* with a limited number of large real estate which have high potential to yield profit and which may, as such, be listed on capital market. Such concept would require the state to assume the main role as it is in its interest to realize capital revenue, by increasing the commercialization level and the total value ofreal estate portfolio. In this way the preconditions for the potential furtherprivatizationwill be fulfilled even for other less worth real estate.

12Dr. sc. Davor Vašiček, Mr.sc.Gorana Roje: Public sector property management reform to enhance the economic development: Croatia and Bosnia and Herzegovina current state and international perspectives
13 Jakir-Bajo, I. (2014.), Obuhvat i evidentiranje državne imovine, TIM4PIN MAGAZIN br. 4,

The establishment of the real estate 'closed fund' would yield the initial revenue for the state budget, thus avoiding a hasty, uncontrolled and non transparent sale. Financial assets collected through the initial sale could then be used for the preparation of commercialization of other real estate, with the keeping of capital real estate in the (co)ownership– by participating in their long-term management. Better quality management increases the real estate value and thus the worth/value of the engagement of the state in such a fund.

6. Conclusion

Based on the analysis of the current situation related to property owned by the RC, this paper gives an outline of the model of state property integral management. The establishment and implementation of such a model of the state property management will also have positive impact on the public sector efficiency. The state should act with the care of a prudent businessman/diligent owner. But, prior to make any plans, the state should have an accurate and updated picture of all property in its ownership and at its disposal, the current condition of the property, the projection of costs of investment (for potential repair the property), potential gains/profit, etc. so that the property is ready to be efficiently used. In order to achieve this goal it is necessary to opt for the best model of property management. The establishment of an unique, comprehensive and standardized public property register with all relevant data about all types of state property and its characteristics and all relating obligations (liabilities). The state should organize itself and make plans linked with all property management issues in a completely new way: as a prudent businessman would do, this means to undertake actions based on carefully designed working plan with clearly defined national and economic objectives, instead of outsourcing such a complex task to others or to leave the whole problem for an undefined period. The establishment and implementation of the model of integral management of state property is in fact a long-term task with a strong reformative feature.

REFERENCES

Grubišić, Nušinović, Roje (2009): ***Towards efficient public sector asset management***, Financial theory and practice. Vol.33,No.3; pp 329-362

Izvješće o provedbi Nacionalnog programa reformi 2016. za razdoblje travanj-kolovoz 2016., Vlada Republike Hrvatske, Zaključak Vlade RH od 12. listopada 2016. (KLASA: 022-03/16-07/339, URBROJ: 50301-05/05/16-2

Jakir-Bajo, I. (2014.), ***Obuhvat i evidentiranje državne imovine,*** TIM4PIN MAGAZIN br. 4,

Vašiček,Roje (2017): ***Public sector property management reform to enhance the economic development: Croatia and Bosnia and Herzegovina current state and international perspectives*** // Journal of Economy and Business, (Special Conference Issue), Faculty of Economics, University of Mostar, 1 1; 436-461

Olga Kaganova and James McKellar (eds). ***Managing Government Property Assets: International Experiences.*** Washington, DC: The Urban Institute Press. ISBN 0-87766-730-6, 2006.

Majčica, B. (2014.), ***Procjena vrijednosti nekretnina – novi izazov za JLP(R)S***, LC konferencija – Panorama 2014., Zbornik radova, Libusoft, d. o.o, Zagreb.

The Global Competitiveness Report 2016–2017, (Ed. Klaus Schwab), World Economic Forum, p.122

5

Međusektorska suradnja & Partnerstva

Intersectoral cooperation & Partnerships

Admir Čavalić, MA, PhD. student
Faculty of Economics, University in Tuzla
Univerzitetska 8, 75000 Tuzla
Phone: +387/61-654-320
E-mail address: admir.cavalic@yahoo.com

Isada Mahmutović, mag.oec., PhD. student
Elektroremont d.d
Patriotske lige 16, 75290 Banovići
Phone: +387/061-163-877
E-mail address: mahmutovic.isada@hotmail.com

Saliha Ćabro, MA, PhD. student
Faculty of Economics University of Zenica
Travnička 1, 72000, Zenica
Phone: +387/61-877-053
E-mail address: saliha.cabro@yahoo.com

Dijana Husaković, PhD.,associate professor
Faculty of Economics University of Zenica
Travnička 1, 72000, Zenica
Phone: +387/61-414-960
E-mail address: dijana.husakovic@ef.unze.ba

CROSS-SECTORAL PARTNERSHIP AND CORPORATE SOCIAL RESPONSIBILITY

MEĐUSEKTORSKA SURADNJA I KORPORATIVNA DRUŠTVENA ODGOVORNOST

ABSTRACT

In recent years, there is a trend of strong pressure on business from non-governmental organizations (NGOs), activists, communities, governments, media and other institutional forces. These groups demand that business adapts to their understanding of corporate social responsibility (CSR). They are secondary or discretionary stakeholders who serve as a rudder for the company, acting as social and political agents that endorse organizational activities, making them socially acceptable and business-credible. This is a consequence of rising role and significance of NGOs, who are now promoting wider social issues, as well as providing the necessary products and services. Authors argue that this is a result of the smaller role of the government, which opens up more space for CSR and greater involvement of companiesand NGOs. For this reason, companies around the world enter into partnerships with their stakeholders, especially NGOs, in order to carry out their CSR activities. The aim of the paper is to explain the entity of cross-sectoral partnership, with emphasis on CSR and market-oriented public sector. In addition to the theoretical considerations of cross-sectoral partnership, the paper will offer results of the research of attitudes of NGO representatives Tuzla canton, about their relationship with local companies. The paper presents the potential for cross-sector partnership development as well as the positive attitudes towards this kind of partnership for examined NGOs. Finally, an appropriate conclusion is made, with recommendations for enhancement and improved of cross-sectoral partnership in Bosnia and Herzegovina.

Key words: *cross-sectoral partnership, corporate social responsibility, Tuzla Canton.*

SAŽETAK

U posljednje vrijeme, poduzeća su pod pritiskom od strane nevladinih organizacija, aktivista, zajednica, država, medija i drugih institucionalnih sila. Ove grupe zahtjevaju da se provodi njihovo razumijevanje korporativne društvene odgovornosti. Riječ je o sekundarnim odnosno diskrecionim stejkholderima koji služe kao "kormilo" za poduzeće, djelujući kao društveni i politički agenti koji odobravaju organizacijske aktivnosti, a što ih čini prihvatljivim i poslovno kredibilnim. Navedeno je posljedica trenda rasta uloge i značaja nevladinih organizacija i to u promovisanju širih društvenih pitanja, ali i obezbjeđivanju neophodnih proizvoda i usluga. Ovo je rezultat manje uloge države, što otvara prostor za korporativnu društvenu odgovornost i veće učešće poduzeća i nevladinih organizacija. Zbog toga poduzeća širom svijeta ulaze u partnerstva sa stejkholderima, naročito nevladinim organizacijama, a sa ciljem izvršenja njihovih društveno odgovornih aktivnosti. Cilj rada je objasniti entitet međusektorske suradnje, sa naglaskom na korporativnu društvenu odgovornost i marketinški orijentisano poslovanje javnog sektora. Pored teorijskog razmatranja međusektorske suradnje, rad će ponuditi rezultate istraživanja stavova predstavnika nevladinih organizacija sa područja Tuzlanskog kantona o njihovom odnosu sa lokalnim poduzećima. U radu se prikazuje potencijal razvoja međusektorske suradnje, kao i pozitivan odnos ispitanih nevladinih organizacija prema navedenom. Na kraju se navodi prigodan zaključak, uz preporuke za pospješivanje i unaprijeđene međusektorske suradnjeu Bosni i Hercegovini.

Ključne riječi: *međusektorska suradnja, korporativna društvena odgovornost, Tuzlanski kanton.*

1. Introduction

At the beginning of the 1980s, the influence of the government in the economy and society was dramatically reduced. The process of economic decentralization was taking place, which implied that the economic, but also any other kind of power is transferred from the government to companies and citizens, which was manifested through the development of the non-governmental organizations (NGO). This occurs through the processes of privatization, a public-private partnership, deregulation and the like. Accordingly, the influence of companies and NGOs on social issues increased. Parallel with this, following the development of the stakeholder theory, there was an emergence of cross-sectoral partnership (alliances) between companies and NGOs. These partnerships started connecting different entities (business, non-governmental, government) in order to address some of the strategically important issues that mostly fall within the domain of corporate social responsibility. The new entity, the cross-sectoral partnership can be analyzed in different ways and is currently a great research challenge, which will be further explained in this paper.

2. The phenomenon of cross-sectoral partnership

Cross-sectoral cooperation is one of the most interesting areas of research and practice in business and social relations. Cooperation (partnership) that connects different sectors (public, private and non-governmental) is booming around the world (Tulder et al., 2015; Conner, Snibbe, 2006), especially in the last three decades due to the liberalization of world economic transactions. The phenomenon of the cross-sectoral partnership is based on a strategy that enables public, non-profit and commercial organizations to create greater value and provide capacity, using the resources and competencies of individual organizations (Babiak, Thibault, 2009), thus achieving a synergistic effect. The concept of cross-sectoral partnership refers to the cooperation of various social sectors - government (public), non-governmental and business. The main goal of such cooperation is to solve economic, social and environmental problems (Crane, 1998). This type of cooperation usually refers to socially responsible activities, for which there is interest from participating organizations. Regarding the differences between of cross-sectoral partnership, there are four different types (Babiak, Thibault, 2009):

- The partnership between companies and NGOs;
- The partnership between companies and the government;
- The partnership between the government and NGOs;
- Three-sector (companies, NGOs and government) partnership.

The first form of partnership implies that companies enter into cooperation with NGOs, usually for the sake of realization of some corporate socially responsible activities, initiated by the companies or NGO. Another aspect of the partnership involves the cooperation of companies and the government, in order to solve a certain social issue that the government can not implement alone. Cooperation between the government and the NGO is a form of cooperation in relation to certain social issues, where the government seeks additional, relevant knowledge that the specific NGO has (because of its expertise or experience in are of cooperation). Finally, the three-sector partnership relates to cooperation between all three actors - companies, NGOs and government. It is usually a matter of major, strategic, and even broader, global issues. The concept of cross-sectoral partnership between companies and NGOs will be presented in the following chapter.

3. Cross-sectoral partnership between the company and non-governmental organizations

The cross-sectoral partnership between companies and NGOs is becoming more and more important, especially in the context of the need to address certain social problems, but also in line with the development of the concept of corporate social responsibility (CSR). The partnership between companies and NGOs improves the performance of CSR, but also the engagement of resources (van Huijstee, Glasbergen, 2008; Eweje, Palakshappa, 2009; den Hond et al., 2015; Fontana, 2017). Companies enter these partnerships for "invisible resources" such as reputation and legitimacy, while NGOs seek to acquire organizational and financial resources (Graf, Tohlauf, 2012). Cross-sectoral partnerships can create collaborative advantages and common values (Teegen et al., 2004; Glasbergen, 2010; Porter, Kramer, 2011) by collecting and sharing information, knowledge and skills (Austin, 2000; Waddell, 2000; Selsky, Parker, 2005). Also, according to Drucker (1989), companies can use a lot of needed experience from NGOs. As for NGOs, the motives for entering cross-sectoral partnerships are (Tenny et al., 2007):

- The inability to independently realize a mission;
- Responding to requests made by donors in the private sector;
- Exploring new opportunities for funding and innovation;
- Greater impact by using the power and reach of the private sector;
- NGOs become more "business" oriented (recruiting for companies);
- The development of new "for profit" organizations by NGOs;
- Competition with the private sector for development contracts.

Based on these motives, it is understandable that the NGO is trying to provide additional support in the realization of its own mission. Additionally, partnerships improve the efficiency of the project, the social contribution and the competitiveness of NGOs (Kim et al., 2014). These partnerships may also have negative consequences, especially for NGOs, which could jeopardize their legitimacy (Pattberg, 2004; Yaziji, Doh, 2009). Therefore NGOs must avoid partnerships with certain companies (Graf, Tohlauf, 2012). Similarly, but at a lower intensity, it is possible to have a reverse effect, when the behaviour of a single NGO can jeopardize the company's reputation.

4. Corporate social responsibility and cross-sectoral partnership

Cross-sectoral partnerships usually relate to the issues of CSR of the given organizations, in response to external pressures (reactive strategy), as anticipation of potential social issues that can be developed in the future (proactive strategy), or as part of the process of interaction through adapting to current social issues (Seitanid, 2008; Van Tulder et al., 2014). The prevailing model of CSR today emphasizes that social CSR can be seen as “economic, environmental and social responsibility towards all stakeholders and society at large” (Zheng, 2010, 20). In accordance with the resource-based view, institutional and network theory (Kim et al., 2014), or social issues platforms within the management (Selsky, Parker, 2005), researchers approach the cross-sectoral partnerships in the context of CSR. The CSR relates to activities undertaken by companies to promote the social good, beyond direct interests and legal regulations (Doh, Guay, 2006). The company should detect, scan, and respond to social demands that achieve social legitimacy, greater social acceptance and prestige (Garriga, Mele, 2012). Within the framework of CSR integrative theory, the theory of management emphasizes the importance of stakeholders for companies as vital part of their CSR activities. In addition, the importance of the stakeholders depends on the dynamics of relationships and managers are prioritizing these stakeholders in line their goals and perceptive factors (Mitchell et al., 1997). Lately, companies are under pressure from NGOs, activists, communities, governments, the media and other institutional powers. These groups require that their understanding of the CSR is implemented (Garriga, Mele, 2012). They all belong to the group of secondary stakeholders (Maon et al., 2009; Post et al., 2002), or discretionary stakeholders (Mitchell et al., 1997) who serve as a rudder for the company, and include social and political agents who approve organizational activities, making them acceptable and commercially credible (Park et al., 2014). The consequence of that is the trend of growth of role and leverage of NGOs, in promoting broader social issues, but also in providing the necessary products and services (Teegen et al., 2004). This is the result of a lesser role of the government, which opens space for CSR and greater involvement of companies and NGOs (Kolk, Lenfant, 2016). As a result, companies around the world are entering partnerships with stakeholders, especially NGOs, in order to carry out their CSR activities (Doh, Teegen, 2002; Schepers, 2006; Konrad et al., 2008; Fontana, 2017). NGOs have become an important stakeholder for companies (Dahan et al., 2010; Hansen, Spitzeck, 2010; Spitzeck, 2009). There are significant differences in NGO activity and their relationship with companies, which depends largely on the north-south phenomena (Schepers, 2003; Fowler, 1992). NGOs have a proactive role and positively influence on CSR activities (Park et al., 2014). In addition, if they provide "profit" services, NGOs themselves must be socially responsible (Easterly, Miesing, 2009). However, they can not directly change CSR policies of the company but are more in a role of CSR moderators (Schepers, 2003). In cross-sectoral partnerships, NGOs can have three roles - complementary, opposed, and reformatory, regarding the government (Marcussen, 1996), but also to individuals and companies (Schepers, 2003). In special situations, their role is intangible; otherwise, their voice is rising in the hope of achieving a cooperative obligation towards the exposed ideals (Domask, 2003). It is important to note that companies tend to marginalize the radical demands of some NGOs (Barkemeyer et al., 2015), which implies that this relationship is never one-sided.

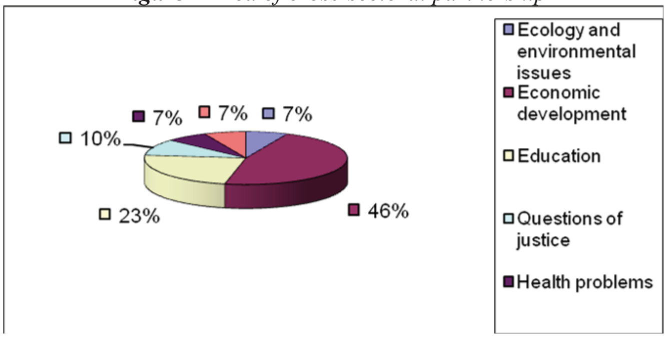
5. Measurement of cross-sectoral partnerships

There are two basic analytical platforms within management and organization theory, which analyze cross-sectoral partnerships. The first platform is called the Resource Dependence Platform, and the second platform is The Social Issues Platform. A resource-based platform analyzes cross-sectoral partnerships in the context of fulfilling organizational needs. On the other hand, the social issues platform stems from the fact that certain social problems are the main motive for forming partnerships (Selsky, Parker, 2005). When it comes to research of cross-sectoral partnerships (company-NGO), it is possible to investigate which social problems are the focus of the partnership (ecological issues, economic development, health problems, equity and education, and other issues). It is also possible to explore different phases of this partnership - (1) formation phase; (2) the implementation phase and (3) outcome issues (Selsky, Parker, 2005). In the framework of the formation phase, the motivation for entering a partnership is usually analysed, the incentive of internal and external stakeholders for partnership and the perception trust inside the partnership. The implementation phase includes research areas such as building and maintaining partnerships, management mechanisms and managerial needs. Trust, power and stakeholder relationships are also a topic at this stage. As far as the outcome is concerned, they are explored at three levels - the direct impact on certain social issues and stakeholders; the impact on capacity building, knowledge and reputation capital that can engage new resources and the impact on social policy or social change (Selsky, Parker, 2005). In the available literature in the field of management, the motivation, success factors and threats within the partnership are mainly researched (Graf, Tohlauf, 2012). Managers are those who are moderators in these stakeholder relationships (Mitchell et al., 1997) and they move CSR values from higher to lower levels in the company (Waldman et al., 2006; Reed et al., 2007; Collier, Esteban, 2007). When it comes to the impact of cross-sectoral partnerships, there are three levels of impact: macro, mezzo and micro impact. Macro impact refers to the meta objectives of interaction (poverty reduction, environmental protection, etc.), mezzo to the goals of individual partners (for companies: corporate image, brand reputation, sales and business performance, entry into new markets; for NGOs: resources, grants, volunteerism, skills, visibility and publicity) and micro impact on the motivations of specific individuals involved in the partnership (employees: intra and interorganizational identification, trust, organizational commitment, work motivation, job satisfaction, productivity, loyalty, satisfaction) (Selsky, Parker, 2005; Kolk et al, 2008). In order to measure the entities of the strategic partnership of NGOs and companies, a "Cross-Sector Alliances Monitoring Instrument" has been developed. This instrument is composed of 28 indicators, grouped into 8 categories (Rocha de Mendonça et al., 2004): 1. Expectations: initial expectations, expected results, defined goals; 2. Strategies: clear Strategies, definition of association, personal relationships; 3. Commitment: adherence to the goals of the partnership; adherence to social goals, participation in partnership, partnership support; 4. Communication: common understanding, communication channels between organizations, frequency of communication, interaction with an external audience; 5. Roles: defined roles, role details, distribution of responsibilities; 6. Resources: fulfillment of goals, financial resources, sharing know-how, fundraising; 7. Value added: institutional development, Brand/image, Development of new skills/ abilities, Internal environment; 8. Evaluation system: system indicators, activity monitoring, selection of indicators for measuring results. Also, Serafin and others state that it is possible to measure the following indicators: partnership analysis; organization; operations; relationships among partners; influence and partnership approach (Serafin et al., 2008).

6. Cross-sectoral partnership in Tuzla canton

In order to research a state of the cross-sectoral partnership in the Tuzla Canton, an online questionnaire was used to obtain an answer. A total of 30 representatives of NGOs were interviewed. Of this, all 30 representatives of local NGOs stated that in some form they had a certain strategic partnership with companies. The questionnaire was structured on the basis of individual categories of Cross-Sector Alliances Monitoring Instrument. In the following lines of the paper, results will be showed. When asked about the area in which cross-sectoral partnership was formed, most respondents indicated the area of economic development (46%), followed by education (23%), and the question of justice (10%). An equal number of respondents had these answers: ecology and environmental issues, health and other problems (all 7%). The answers are shown in Figure 1.

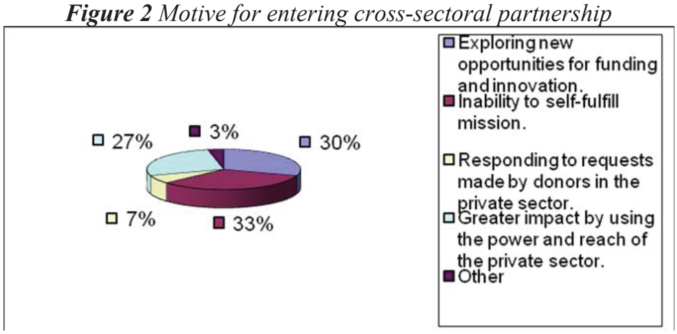
Figure 1 Area of cross-sectoral partnership



Source: Authors creation

Regarding the motive for the entry of NGO in cross-sectoral partnership, the majority of respondents answered that the inability to self-fulfil mission is their grates motive (33%). After that, lots of respondents that exploring new funding opportunities (30%) and greater influence by using the power and reach of the private sector (27%) is their motive. Other responses are related to responding to requests made by donors (7%) and other reasons (3%). This is shown in Figure 2.

Figure 2 Motive for entering cross-sectoral partnership



Source: Authors creation

When it comes to average values, the NGOs considers that partnership fulfilled their expectations (average value of 4.67) and that they are satisfied with communication (4.5), that strategies and directions of the partnership are clearly defined (4.33) and that partnership with companies brought added value to their organization (4.30). The lowest average values relate to the answers about the evaluation system (4.10) and the distribution of resources within the partnership (4.10). Also, NGOs give relatively lower values to the answer about partners commitment to the partnerships and fulfilment of their roles (4.13).

7. Conclusion

The paper shows the specific relationship between the company and the NGOs, expressed in the form of cross-sectoral partnership. Now, more and more companies in the world are entering into this model of cooperation, with the aim of fulfilling their own social role, ie, CSR activities. This research area is still under development, and adequate variables are being considered for measuring the success of the cross-sectoral partnership. There are many areas within which this type of cooperation can be developed, as well as different levels (macro, mezzo, micro) for observation and analysis of the same. When it comes to NGOs from the Tuzla Canton, which were analyzed as part of the primary research of this paper, most of the cross-sectoral partnerships are taking place in the field of economic development. This is expected, taking into account that this is the easiest form of matching the interests of NGOs and companies. NGOs are entering into these partnerships mainly due to the inability to accomplish their mission independently, and because of the resources and power of the private sector. Also, NGOs are mostly satisfied with the partnership and they find it useful. Based on the research in this paper, it is possible to mention several recommendations for the improvement of cross-sectoral partnership in Tuzla Canton and Bosnia and Herzegovina:

- Companies and NGOs should enter into strategic partnerships in order to satisfy the general society as well as their own private goals. This is a prerequisite for successful cross-sectoral partnership.
- It is necessary to take into account the roles of partners in a cross-sectoral partnership, how resources are allocated and whether the objectives are adequately set, and whether there are grounds for these objectives.
- With the help of other stakeholders, such as local, cantonal and other levels of government, it is necessary to work on popularizing and improving this kind of cooperation, due to the overall improvement of CSR in Bosnia and Herzegovina.

The topic of the cross-sectoral partnership is still insufficiently researched, especially in Bosnia and Herzegovina, and consequently, further research in this area is recommended, as well as examining of the views of the company about their expectations and experiences when it comes to these forms of cooperation.

REFERENCE

Austin, J. E. (2000): ***Strategic collaboration between nonprofits and business***, Nonprofit and Voluntary Sector Quarterly, Vol. 29, pp. 69–97.

Babiak, K., Thibault, L. (2009): ***Challenges in Multiple Cross-Sector Partnerships***, Nonprofit and Voluntary Sector Quarterly, Vol. 38, No. 1, pp. 117-143.

Barkemeyer, R., Gibson, A., Napolitano, G., (2015): ***NGO-Business Relationships over Time: Marginalizing Radical Voices?,*** Academy of Management Annual Meeting Proceedings

Collier, J., Esteban, R. (2007): ***Corporate Social Responsibility and Employee Commitment***, Business Ethics: A European Review, Vol. 16, No. 1, pp. 19–33.

Crane, A. (1998): ***Exploring green alliances***, Journal of Marketing Management, Vol. 14, No. 6, pp. 559–579.

Doh, J.P., Guay, T.R. (2006): ***Corporate Social Responsibility, Public Policy, and NGO Activism in Europe and the United States: An Institutional-Stakeholder Perspective***, Journal of Management Studies, Vol. 43, No. 1., pp. 46-73.

Domask, J., (2003), ***From boycotts to global partnership: NGOs, the private sector, and the struggle to protect the world's forests***, in Doh, J.P., Teegen, H. (2003): Globalization and NGOs: Transforming Business, Government, and Society, Praeger, Westport

Drucker, P.E. (1989): ***What business can learn from nonprofits***, Harvard Business Review, Vol. 67, pp. 88–93

Easterly, L., Miesing, P. (2009): ***NGOs, Social Venturing, and Community Citizenship Behavior***, Business & Society, Vol. 48, No.4, pp. 538-564.

Fowler, A. (1992): ***Distant obligations: Speculation on NGO funding and the global market***. Review of African Political Economy, Vol. 19, No. 55, pp. 9-29.

Garriga, E., Melé, D. (2004): ***Corporate Social Responsibility Theories: Mapping the Territory***, Journal of Business Ethics, Vol. 53, No. 1-2, pp. 51–71.

Glasbergen, P. (2010): ***Global action networks: Agents for collective action***. Global Environmental Change, Vol. 20, pp. 130–141.

Graf, N.F.S., Rothlauf, F. (2012): ***Firm-NGO collaborations***, Zeitschrift für Betriebswirtschaft, Vol. 82, No. 6, pp. 103–125.
Kim, S., Choe, S., Chung, S.A. (2014): ***Determinants of NGO-Corporate Partnership Performance: NGO's Perspective***, Academy of Management Annual Meeting Proceedings
Kolk, A., Lenfant, F. (2016): ***Hybrid business models for peace and reconciliation***, Business Horizons Volume, Vol. 59, No. 5, pp. 503-524.
Kolk, A., van Tulder R., Kostwinder E. (2008): ***Business and Partnerships for Development***, European Management Journal, Vol. 26, No. 4, pp. 262–273.
Maon, F., Lindgreen, A., Swaen, V. (2009): ***Designing and implementing corporate social responsibility: An integrative framework grounded in theory and practice***, Journal of Business Ethic, Vol. 87, pp. 71–89.
Marcussen, H.S. (1996): ***NGOs, the state, and civil society***, Review of African Poltical Economy, Vol. 23, No. 69, pp. 405-423.
Mitchell, R., Agle, B., Wood, D.J. (1997): ***Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts***, The Academy of Management Review, Vol. 22, No. 4, pp. 853-886.
Park II, B., Chidlow, A., Choi, J. (2014): ***Corporate social responsibility: Stakeholders influence on MNEs' activities***, International Business Review, Vol. 23, No. 5, pp. 966-980.
Pattberg, P. (2006): ***The influence of global business regulations: beyond good corporate conduct***. Business and Society Review, Vol. 111, No. 3, pp. 241-268.
Porter, M. E., Kramer, M. R. (2011): ***Creating Shared Value How to reinvent capitalism—And unleash a wave of innovation and growth***. Harvard Business Review, Vol. 89, pp. 62–77.
Post, J. E., Preston, L. E., Sachs, S. (2002): ***Managing the extended enterprise: The new stakeholder view***, California Management Review, Vol. 45, No. 1, pp. 6–28.
Prakash, A., (2002): ***Beyond Seattle: globalization, the nonmarket environment and corporate strategy***, Review of International Political Economy, Vol. 9, No. 3, pp. 513-537.
Reed, A. II, Aquino, K., Levy, K. (2007): **Moral Identity and Judgments of Charitable Behaviours**, Journal of Marketing, Vol. 71, pp. 178–193.
Rocha de Mendonça, F., Fedato, C., Tsustsui, M. (2004): ***Monitoring of cross-sector alliances: a Brazilian proposal***, Paper presented to ISTR Sixth International Conference on Contesting Citizenship and Civil Society in a Divided World, Ryerson University and York University, Toronto, Canada, 11–14 July.
Schepers, D.H., (2006): ***The Impact of NGO Network Conflict on the Corporate Social Responsibility Strategies of Multinational Corporations***, Business & Society, Vol. 45, No. 3, pp. 282-299.
Seitanidi, M. M., Crane, A. (2014). ***Social partnerships and responsible business: A research handbook***, Routledge, London
Selsky J.W., Parker B. (2005): ***Cross-Sector Partnerships to Address Social Issues: Challenges to Theory and Practice***, Journal of Management, Vol. 31, No. 6, pp. 849-873.
Serafin, R., Stibbe, D. (2008): ***Current practice in the evaluation of cross-sector partnerships for sustainable development***, in: The partnering initiative, https://thepartneringinitiative.org/wp-content/uploads/2014/08/WP1_Evaluation.pdf (accessed 15 March 2018)
Snibbe, A.C. (2006): ***Cultivating Cross-Sector Partnership***, in: Stanford Social Innovation Review, https://ssir.org/articles/entry/cultivating_cross_sector_partnerships (accessed 10 March 2018)

Teegen, H., Doh, J. P.,Vachani, S. (2004): ***The importance of nongovernmental organizations (NGOs) in global governance and value creation: An international business research agenda***. Journal of International Business Studies, Vol. 35, pp. 463–483.
Tennyson, R., Harrison, T., Wisheart, M. (2008): ***Emerging opportunities for NGO-business partnership***, in: The Cross Sector Partnership project, https://thepartneringinitiative.org/wp-content/uploads/2014/08/Emerging-opportunities-for-NGO-business-partnerships1.pdf (accessed 20 March 2018)
Tulder, R., Seitanidi, M., Crane, A., Brammer, S. (2015): ***Enhancing the Impact of Cross-Sector Partnerships Four Impact Loops for Channeling Partnership Studies***, Journal of Business Ethics, Vol. 135, No. 1, pp. 1-17.
Van Tulder, R., Pfisterer, S. (2014): ***Creating partnering space: Exploring the right fit for sustainable development partnerships***, in: M. M. Seitanidi & A. Crane (Eds.) (2014): Social partnerships and responsible business: A research handbook, Taylor and Francis, Hoboken
Waddell, S. (2000): ***Complementary resources: The win–win rationale for partnerships with NGOs*,** in Bendell, J. (Ed.) (2000): Terms for endearment: Business, NGOs and sustainable development, Greenleaf Publishing, Sheffield
Waldman, D. A., Siegel, D.S., Javidan, M. (2006): ***Components of CEO Transformational Leadership and Corporate Social Responsibility***, Journal of Management Studies, Vol. 43, No.8, pp. 1703–1725.
Yaziji, M., Doh, J. (2009): ***NGOs and corporations—conflict and collaboration***, Cambridge University Press, New York
Zheng, D. (2010): ***The Impact of Employees' Perception of Corporate Social Responsibility on Job Attitudes and Behaviors: A Study in China***, in: Singapore Management University, https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=1071&context=etd_coll (accessed 10 March 2018)

Joanna Miklińska PhD
Gdynia Maritime University
ul. Morska 81-87, 81-225 Gdynia, Poland
E-mail: j.miklinska@wpit.am.gdynia.pl

PUBLIC-PRIVATE PARTNERSHIP FOR THE DEVELOPMENT OF TRANSPORT INFRASTRUCTURE AND SERVICES – THE CASE OF POLAND

JAVNO-PRIVATNO PARTNERSTVO ZA RAZVOJ TRANSPORTNE INFRASTRUKTURE I TRANSPORTNIH USLUGA - SLUČAJ POLJSKE

ABSTRACT

Transport infrastructure is one of the factors which determine the attractiveness of the region and the country. Proper facilities within the transport infrastructure, thanks to its acceleration feature, increase the pace of social and economic development of a particular region. It is therefore for the public authorities at different levels to provide proper infrastructure. However, its development is frequently hindered due to limited financial possibilities of the public sector. In such case, solution in the form of Public Private Partnership (PPP) can be used. In particular European countries the popularity of PPP is different, inter alia due to difficulties in implementing the said formula. In Poland we can also observe the development of PPP. It refers to different sectors, including transport infrastructure and services. The process is not easy and requires a lot of effort from various stakeholders. Therefore the main purpose of this paper is twofold: 1) present the Polish experience regarding the use of PPP formula in projects related to the transport infrastructure and rendering transport services, 2) identify the obstacles in applying PPP formula in Poland and future developments of the Polish PPP market. The main objective of the article has been achieved by studying the literature and analysing legal regulations and statistical data, reports and publications of public institutions and reports of agencies and consulting companies. The article refers to: legal grounds of PPP in Poland, types and sector-based structure of projects (commenced, completed and planned) and against a background of them, the share of transport projects, types of partners in the projects, the volume (value) of projects and other issues. The article also outlines the evolution in perceiving PPP over the years, solutions contributing to the promotion of PPP in Poland and increase in the number of PPP initiatives related to transport and those referring to the sustainable development of transport. The conclusions and experience resulting from the conducted analysis may constitute examples and guidelines for other countries, in particular those who just like Poland have gone through the political and economic transformation and have yet to catch up, in particular in terms of infrastructure.

Key words: *Public Private Partnership, Transport Infrastructure, Transport Services, PPP in Poland, Sustainable Development of Transport.*

SAŽETAK

Prometna infrastruktura jedan je od čimbenika koji određuje atraktivnost regije i zemlje. Odgovarajuće opremanje ransportne infrastrukture, zahvaljujući njenoj funkciji ubrzanja, utječe na ubrzanje društveno-gospodarskog razvoja područja. Stoga je pružanje odgovarajuće infrastrukture odgovornost javnih vlasti na različitim razinama. Često, međutim, njegov je razvoj otežan zbog *ograničenih financijskih mogućnosti javne strane. U ovom slučaju moguće je koristiti rješenje u obliku javno-privatnog partnerstva (JPP). U pojedinim europskim zemljama, JPP ima raznoliku popularnost, uključujući zbog poteškoća u provedbi ove formule. Razvoj JPP-a također se promatra u Poljskoj. Primjenjuje se na različite sektore, uključujući transportnu infrastrukturu i usluge prijevoza. Ovaj proces nije jednostavan i zahtijeva napore različitih sudionika. Stoga je glavni cilj ovog članka da: 1) prikaže poljska iskustva u korištenju projekata JPP-a za prometnu infrastrukturu i provedbu transportnih usluga, 2) identificiranje prepreka za korištenje JPP u Poljskoj i daljnje pravce razvoja JPP u Poljskoj. Za relaizaciju glavnog cilja članka, provodena su istraživanja literature, analize pravnih akata, statističke analize podataka, izvješća i studija javnih ustanova i izvješca agencija i konzultantskih tvrtki. U članku je opisana: pravna osnova za JPP u Poljskoj, vrste i i strukture industrije projekata (započetih, završenih i planiranih) i na temelju njih udjeo prometnih projekata, vrste partnera u projektima, volumen (vrijednost) projeata i druga pitanja. Pažnja je također posvećena razvoju u percepciji JPP tijekom godina, rješenja koja pridonose promociji JPP u Poljskoj i povećanje broja inicijativa JPP u vezi s prijevozom i tih koje se upisuju u koncept održivog razvoja prometa. Zaključci i iskustvo koje proizlaze iz analize mogu dati primjere i smjernice drugim zemljama, posebno onih koji su, poput Poljske, prošli političku i ekonomsku transformaciju i još uvijek moraju nadoknaditi mnoge oblasti svog djelovanja, kao naprimer infrastrukturu.*

Ključne riječi: *javno-privatno partnerstvo, prometna infrastruktura, transportne usluge, JPP u Poljskoj, održivi razvoj prometa.*

1. Introduction

The social and economic development of countries, regions and cities has been conditional to a large extent upon their infrastructure, including transport and logistics infrastructure. Today, special attention is paid to the fact that the development should be sustainable – combining three groups of factors: social, economic, and ecological ones. The combination of said factors enables to fulfil the goals of various stakeholders and obtain sustainable and stable growth. Supporting the sustainable development is not an easy task. The public sector, which is usually responsible for providing proper transport infrastructure, often fails to have adequate financial means. The solution which can help meet those needs involves Public-Private Partnership (PPP) – a form of cooperation between the public and private sectors, making it possible for both parties to achieve their goals.

Poland as a country which experienced the political and economic transformation, suffered significant shortage of essential infrastructure components still at the beginning of the new millennium. Over the last several years, the infrastructure of the main transport sectors has already been improved. Particularly noticeable is the change in the length of motorways (still in 2005 there were 552 km of motorways, today 1638 km) and the expressways - 258 km and 1807 km respectively (Central Statistical Office, 2017, 314; GDDKiA, 2018). Moreover, numerous sections of rail infrastructure were modernized and high speed rail was introduced. The infrastructure of seaports and airports was also improved. Only some of those investments were completed within PPP projects since other sources of funding were available.

The need for modernization and building new infrastructure has still been considerable in Poland. It is indicated that if the previous pace of infrastructure development (not only transport infrastructure) is maintained, it will lead to the demand for 1.5tn PLN[1] of capital till 2030. EUR. The development plans for transport infrastructure include, *inter alia*, modernization of railway lines and of inland waterways and further development of road network (Council of Ministers, 2017, 3). Moreover, we need to remember that the currently built and modernized infrastructure must comply with the sustainable development requirements. Therefore, the public sector faces numerous tasks in the future, apart from the tasks related to providing collective transport services.

[1]Under the exchange rate of the National Bank of Poland as on 5.04.2018 1 EUR totals ca. 4.21 PLN (NBP, 2018)

Without PPP the tasks seem to be difficult to complete, and the use of PPP projects may additionally help to obtain EU funding (Council of Ministers, 2017, 3) through the implementation of hybrid projects. Being aware of such challenges, we need to analyse the state and tendencies for the development of PPP market in Poland against the background of the European market. However, we need to remember that although each national market has its own specificity, and in Europe the PPP market is nationally fragmented, we can also observe the European dimension (Medda, Carbonaro, Davis, 2013, 83) of PPP market development and the common course.
Over the last several years, Poland has been placed at the lower end of the European PPP market. Between 2013 and 2017, Poland ranked 12th by the number of projects, and 11th in terms of their cumulative value. In 2017 only, the situation was slightly better since Poland ranked 8th (taking into account the cumulative value of projects) (European Investment Bank, EPEC, 2018; 2, 7). From the perspective of the subject of this article we also need to focus on another element characteristic of the European PPP market. In recent times (2013-2017), the transport sector in Europe ranked first in terms of the cumulative value of PPP projects, and in selected years, in terms of the number of projects (in 2014 and in 2017 the same place as the education sector) (European Investment Bank, EPEC; 2018; 3, 8). On the Polish PPP market, other sectors hold a dominant position (see p. 4), and the transport sector is far behind. We need to indicate reasons for such situation and barriers hindering the development of PPP market in Poland. The aim of this article is to analyse to what extent PPP is used to build transport infrastructure and provide transport services in Poland. It is important to provide the characteristics of such projects and the current state as well as tendencies for the future.

2. Literature review

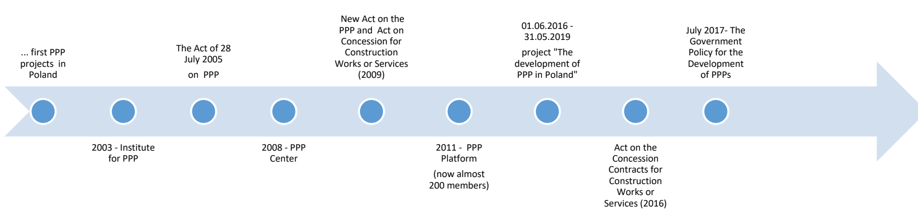
The concept of PPP has been applied in various countries in the world. Therefore, it is difficult to provide a single compulsory definition of this concept. Numerous international organizations offer their own interpretations. The World Bank publication provides the following definition of PPP: "a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance" (World Bank, 2017, 5).
There are many publications of various organizations related to the concept of PPP and its practical application. They provide support for parties who become involved in PPP and for other stakeholders interested in promoting this concept. They specify, *inter alia*, the contract types and infrastructure contract nomenclature (e.g. DBFOM, DBFO, BOT, BTO, ROT); moreover, they clarify the typical concepts thereof defining the functions of private party (e.g. design, build, rehabitate, finance, maintain, operate) (World Bank, 2017, 6-7), and responsibilities and risks of the private sector under different project delivery models (Rall, Reed, Farber, 2010, 5). The European Union has also issued numerous documents (regulations and directives) governing the area of Public-Private Partnership and issues directly related thereto. Already in 2003, the European Commission published important communication, *Guidelines for Successful Public-Private Partnerships* (European Commission, 2003) which became loadstar for entities planning to enter into PPP.
In analysing the source literature from the perspective of PPP related publications, we can observe some key perspectives. The publications refer to various sectors involved in the implementation of PPP projects. We need to realize that in the reports on the European PPP market the market is divided into the following sectors: Transport, Healthcare, Telecommunications, Education, Environment, Public Order and Safety, Recreation and Culture, General Public Services (European Investment Bank, EPEC; 2018; 3). In the transport sector, namely the main area of interest analysed in this article, the publications refer to different parts of the world and different countries. The issues related to the implementation of PPP concept in particular countries are debated for e.g.: Russian Federation (Nidziy, 2017, 1-3; Shibayeva, Serebryakowa, Shalnev, 2017,1-3; Polyakova, Vasilyeva, Vorontsova, 2017, 7), France (Zembri-Mary, 2017, 1-13), and South Africa (Ittmann, 2017, 1-13; Sanni, Hashim, 2014, 133-138). The articles also refer to the circumstances and

experience of entire regions and groups of states in the world e.g.: BRICs and developing countries (Hodge, Greve, 2018, 11) and the European Union (Grzelakowski, 2009, 5). The EU Member States are diversified from the institutional point of view and have different experience related to PPP (Medda, Carbonaro, Davis, 2013, 84-85). Moreover, the PPP issues within the area of transport are discussed from the perspective of particular transport sectors, e.g.: in the railway transport (Ittmann, 2017, 1-13) from the perspective of railways and motorways (Zembri-Mary, 2017, 1-13). The articles also refer to the different experience and examples of solutions from various countries (Medda, Carbonaro, Davis, 2013, 83-87). In literature, the issues related to PPP are also analysed in relation to the sustainable development. PPP is connected with the sustainable development of transport infrastructure (Polyakova, Vasilyeva, Vorontsova, 2017, 1,7). Moreover, PPP and its relation with the sustainable development of transport infrastructure is presented as a factor important for the sustainable development of regional economy (Nidziy, 2017, 1-3).

3. Formal and legal considerations and organizational conditions for the development of PPP in Poland

For many years, the concept of PPP has also been the subject of interest in Poland. The history of Polish PPP is divided into two main time periods. Before 2005, when there was no special act on PPP and single projects were implemented based on other, possible to apply, legal regulations. And the other time period when special legal provisions were enacted. The first Act on PPP entered into force in 2005 (Act on the PPP, 2005). However, it failed to increase the number of implemented projects. The act was rather restrictive and enacted in times when in Poland the implementation of PPP projects was not particularly popular. As a result, under the provisions of said act on PPP, no PPP project was completed. The new Act on PPP (Act on the PPP, 2008) entered into force in 2009, and subsequent years provide more and more PPP projects (Council of Ministers, 2017, 5). Moreover, the implementation of PPP projects since 2009 has been based on two acts on concession for construction works or services. The first act was effective from 2009 to 2016 (ACWS, 2009) and was repealed when the new act entered into force in 2016 (ACCCWS, 2016) (Korbus, Zalewski, Szymański, 2017, 66; Council of Ministers, 2017, 5). Milestones in the development of PPP in Poland were presented in the timeline – Figure 1.

Figure 1 *PPP in Poland Timeline*



Source: own elaboration of the author based on (Council of Ministers, 2017, 5; Institute for PPP, 2018; PPP Platform, 2018; PPP Center, 2018)

In accordance with the existing provisions „Under the public-private partnership contract the private party shall implement the project against remuneration and cover in whole or in part the expenditures for project implementation or cover them by a third party, and the public entity shall cooperate to achieve the goal of the project, in particular by making own contribution", and „the public-private partnership contract may provide that for the performance of agreement the public entity and private party establish a company (…)" (Act on the PPP, 2008).
In conclusion, the solutions applied in Poland can be divided into two PPP types. The first model involves contract-oriented PPP based on agreement and related to direct cooperation between the

public entity and private party; without establishing any auxiliary entity. The second model involves institution-oriented PPP which involves establishing a company (Kozłowska, 2016, 7).

The subject of PPP contract involves providing and maintaining the premises for the duration of contract or providing services related to public infrastructure management. The PPP projects may include: design, finance, construction, maintenance and management of infrastructure or providing services and managing the infrastructure solely by the private party (Council of Ministers, 2017, 11). The most popular models of PPP in Poland include: BOT (build-operate-transfer), DBOT (design-build-operate-transfer), BOOT (build-own-operate-transfer), BOO (build-own-operate), DBFM (design-build-finance-maintenance), DBFO (design, build, finance, operate) (Kozłowska, 2016, 8).

Over the years, in Poland not only the legal provisions regarding PPP were subject to evolution, but at the same time new organizations were established supporting the implementation of such projects (Fig. 1). Already from 2003, the idea of PPP has been promoted by the Institute for PPP – NGO supporting the local and central administration as well as the private sector in the implementation of PPP projects. The Institute provides analysis on the PPP market in Poland (Institute for PPP, 2018). In 2008, public and private entities established the PPP Center – non-profit NGO cooperating with the government, on the implementation of PPP in Poland, and with the national and foreign entities (PPP Center, 2018). Another important venture was the launch of PPP Platform in 2011. The organization comprises nearly 200 members – solely public entities (ministries, large cities, local authorities, public companies, public medical centres and universities). The aim of organization is to support effective implementation of such projects and exchange experience (PPP Platform office, 2015, 4; PPP Platform, 2018). On the platform website we can find model documents for PPP projects. Moreover, presently, project entitled *The Development of public-private partnership in Poland* has been implemented. The venture is co-funded by the European Social Fund (within Measure 2.18 High quality administrative services, Operational Programme Knowledge Education Development 2014-2020). The main objective of project is to improve qualifications of public administration employees regarding PPP. The project offers, e.g. free trainings, workshops and debates. It is also planned to develop guidelines on the implementation of PPP projects (PPP Platform, 2018). Numerous activities supporting the development of PPP in Poland are also organized by the Polish government recently. In 2017, *The Government Policy for the Development of PPPs* was published. The document specified, *inter alia*, specific actions indispensable for further development of PPP in Poland, and the minister for regional development became the central organizational entity responsible for the application of PPP in Poland and the coordinator for activities of other institutions (Council of Ministers, 2017, 3, 16-17).

4. PPP for Transportation in Poland– status quo and development opportunities

The interest in PPP projects was observed with the political transformation which occurred at the beginning of 1990s. The first projects were implemented in Poland already before the said acts on PPP entered into force, by applying, inter alia, laws related to the construction of motorways. In accordance with this procedure several sections of motorways were built: A1 (152 km), A2 (255 km) and A4 (61 km) – 468 km in total, and in accordance with other legal provisions public transport projects were completed (Korbus, Srokosz, Wawrzyniak, 2010, 32; GDDKiA, 2013, 2).
The increase in the number of projects was observed after 2009, when the aforementioned new Act on PPP (2008) and Act on Concession for Construction Works or Services (2009 and ACCWS 2016) became effective, and that time period is the subject of research in this part of the article. The analysis of the PPP market (for the period 2009 - 06.2017) provided on behalf of the Ministry of Investment and Economic Development by a group of authors within the Institute for PPP (Korbus, Zalewski, Szymański, 2017, 1-115) and Database of PPP Projects (Ministry of Investment and Economic Development, 2017 a) are the reliable and most recent sources of information on the PPP projects implemented in Poland at that time.

From the beginning of 2009 till mid-2017, 490 procedures for the selection of private partner (or concessionaire) were commenced. However, not all of the scheduled projects proved to be successful. Due to various reasons (analysed below) 73.88% of procedures did not result in concluding the contract, although some were repeated. Thus, 128 agreements were concluded in relation to various sectors, whereas 116[2] of them were implemented (Korbus, Zalewski, Szymański, 2017, 10,19,33). Fifteen (15) projects refer to transport infrastructure and seven (7) to transport services. In total there were 22 transport projects with ca. 18.97 % share in the total number of projects of all sectors. At the same time, we need to remember that the total value of the two groups of projects amounts to ca. 0.5bn PLN (ca. 0,12bn EUR) and constitutes ca. 8.6 % in the total value of all projects implemented in Poland (amounting to ca. 5.8bn PLN – ca. 1.4bn EUR) (Korbus, Zalewski, Szymański, 2017, 33) and consequently lower as for the number of projects. In order to specify the subject of completed transport projects and projects in progress, the types of their business partners and their value the author analysed the database of projects with the concluded contracts. The results of analysis are presented in table 1.

Table 1 *Characteristics of concluded PPP contracts – completed PPP transport projects and projects in progress in Poland (from 2009 to 06.2017)*

Subject of project (number of projects)	Type of public entity	Type of private entity	Nett value of contract* - volume of project (number of projects)
Projects on transport infrastructure			
- construction of urban parking space and underground parking space of different type (5) - reconstruction (or maintenance) of commune and municipal road (5) - delivery and maintenance of bus shelters or their modernization (in addition, for one PPP advertising activity at bus shelters) (3) - reconstruction of underground passage for inhabitants with the construction of new commercial facilities (1) - development of city bicycle system (1)	- municipal company (1) - budget entity (4) - municipality (5) - urban and rural commune (2) - rural commune (1) - public health institution (1) -other (1)	companies, (service, construction and other companies) consortia of various entities	- micro (9) - v. small (1) - small (3) - medium (1) - large (1)
Projects on transport services			
- providing collective public transport services related to passenger road transport within commune, county (3) -launch and maintenance of regular school transport service for children (3) - launch and management of electric car rental in the city(1)	- municipality (1) - county governor's office (1) - urban and rural commune (2) - rural commune (3)	companies, various transport companies, public transport companies, consortia of various entities	- micro (5) - medium (2)

*micro (<5m PLN); v. small (5-20m PLN); small (20-50m PLN); medium (50-100m PLN); large (100-250m PLN); very large (250-500m PLN); the largest (>500m PLN).

Source: Own elaboration of the author based on (Ministry of Investment and Economic Development, 2017a)

Table 1 proves that the Polish PPP on transport infrastructure referred to numerous ventures in municipalities, e.g.: ground floor and underground parking, underground passages and bus shelters, city roads and, moreover, crucial for the regional development, sections of municipal roads. We can observe that in the analysed time period PPP projects contributed to the improvement of transport infrastructure of selected cities or regions but failed to involve large-scale projects, crucial for the

[2] Number of contracts in particular sectors presents as follows: energy efficiency (18), sport and tourism (17), transport infrastructure (15), water and sewage management (13), telecommunication (12), transport services (7), other (7), waste management (6), culture (6), health protection (4), education (4), public buildings (3), modernization (2), housing (1), power industry (1). The highest total value refers to contracts within the following sectors: telecommunication and waste management (Korbus, Zalewski, Szymański, 2017, 33)

whole transport system in the country. Private partners in this group of projects include service and construction companies as well as consortia of entities. The projects involve ventures of low value. The group fails to include very large and the largest projects, which excludes Poland e.g. from the list of the eight largest PPP projects completed in 2017 in Europe (the largest European project amounted to 2.8bn EUR, and some to more than 1bn EUR) (European Investment Bank, EPEC, 2018, 1-2).
The PPP projects on transport services are also low-value projects. They mainly refer to providing collective passenger road transport services in the municipality or county, and providing regular school transport service for children. Given the specific type of contracts, private partners most frequently include here transport companies or consortia of entities. By supporting the development of collective passenger transport, the projects undoubtedly constitute solutions related to the sustainable development of transport increasing the availability of transport services for the society and producing less impact (compared to individual transport) on the environment. It is worth mentioning the project related to the launch of electric car rental in the city. Such initiative is a sign of increased interest from public entities in such modern solutions related to the sustainable development of transport in the future, in particular these days when the concept of smart city has been implemented in various cities in Poland.

Table 1 proves that local authorities (municipalities and rural communes) and to a smaller extent other public entities were the party, as public partner, to the majority of PPP contract concluded till today. The source literature indicates that the dominance of local and regional authorities as public partners in PPP projects is a characteristic feature of PPP market, typical of many developed countries. Such situation results from the fact that public partners of such level play the key role in the services of general interest, including the role of managers and owners of infrastructure facilities (Korbus, Zalewski, Szymański, 2017, p. 58; Kozłowska, 2016, 18). In general, local authorities select the concession-based PPP model, where the private party bears the larger part of economic risk, and the financial contribution of public entity is limited and frequently involves e.g. contribution in the form of land. (Korbus, Zalewski, Szymański, 2017, 63-64). It should be noted that in the infrastructure-oriented projects the private party remuneration models mainly refer to: fees from users and payments for availability; other models are mixed models. In services, mixed models are dominant (Ministry of Investment and Economic Development, 2017a).

Under reports and documents from various stakeholders we can identify barriers to the implementation of PPP in Poland. Already at the preparation stage of PPP project, the main reasons for invalid procedures include, e.g.: lack of experience in such projects, lack of interest from private sector, change of circumstances and errors in procedures which prevent concluding a valid contract. Another reason involves lack of employment of external consultants supporting the public party (Korbus, Zalewski, Szymański, 2017, 22-24; Council of Ministers, 2017, 5; PPP Platform, 2018). The Supreme Audit Office (supreme audit institution in Poland) in their report on PPP also indicates that the reason for failures in PPP implementation involves insufficient preparation, including insufficient risk assessment and lack of analyses on the best method for the completion of task (NIK, 2013, 5). The reason for insufficient number of successfully completed projects refers to the lack of developed standards on maintaining the infrastructure and mental barriers to apply PPP (Kozłowska, 2016, 15-16). Apart from those issues, the government indicates the problem of not really optimal legal provisions, lack of coordinated development policy and small number of completed large (governmental) PPP projects, which means that such investments receive funding from other sources, without the use of PPP (Council of Ministers, 2017, 6-8).

Over the past years, subsequent completed projects and projects in progress become the examples of good practice on the Polish PPP market and the source of experience for other entities which plan to enter into PPP. In order to identify the number, value and type of planned PPP projects in Poland in the transport sector, the author analysed the database of planned investments (Ministry of Investment and Economic Development, 2017b). The database (updated as at December 2017) comprises 157 projects, including 46 transport projects and among those 26 are transport infrastructure projects and 20 transport service projects. Table 2 presents their basic characteristics.

***Table 2** Planned PPP transport projects in Poland (as at December 2017)*

Subject of project (number of projects)	Type of public entity	Value of project* (number of projects)
Projects on transport infrastructure		
- design, funding, construction and maintenance of municipal parking and underground parking (different scope of private party functions in the projects) (7) - construction, reconstruction, modernization, maintenance of country, commune, residential roads (different scope of private party functions in the projects) (5) - construction, reconstruction, operating, and maintenance of voivodeship roads (different scope of private party functions in the projects) (2) - design, construction and operating of repair facility for railway vehicles (1) - modernization of bus shelters in the city (1) - building the canal on inland waterway (Śląski Canal) (1) - building the cascade on Oder River waterway (1) - construction of the Central Port – development of deep water part of the seaport in Gdańsk (1) - construction of a section of expressway (4) - construction of a section of motorway (1) - reconstruction of a section of motorway (1) - construction of tram line (1)	- government administration (9) - municipality (7) - budget entity (3) - county governor's office (2) - municipal company (2) -urban and rural commune (1) -Marshal's Office (1) - rural commune (1)	- largest (9) - very small (4) - small (4) - very large (3) - large (2) -no data (2) - medium (2)
Projects on transport services		
- providing collective public passenger road transport services within voivodeship (13) - providing collective public passenger road transport services within county or commune (6) - providing car-sharing services in the city (1)	-Marshal's Office (13) - county governor's office (4) -urban and rural commune (2) - budget entity (1)	- large (1) - very small (7) - micro (10) -no data (2)

*micro (<5m PLN); v. small (5-20m PLN); small (20-50m PLN); medium (50-100m PLN); large (100-250m PLN); very large (250-500m PLN); the largest (>500m PLN).

Source: Own elaboration of the author based on (Ministry of Investment and Economic Development, 2017b)

By referring to the projects on transport infrastructure specified in table 2 it should be noted that as many as nine of them are planned by the central government administration. These are projects of (> 500m PLN) in value and refer to infrastructure-oriented ventures (e.g. construction of the Central Port in Gdańsk or Śląski Canal) important for the whole transport system in the country. Some projects refer to the construction or reconstruction of motorways and expressways, which is crucial from the perspective of further development of highest-class road network. It should be noted that after many years of negligence, the public side has shown interest in inland waterway projects, the area of the lowest negative impact on the environment and fully meeting the requirements of sustainable development of transport. Among the currently planned projects there are some referring to the transport infrastructure facilities within the city.

Among the transport service projects the largest number of planned initiatives refers to the collective passenger road transport within voivodeship (territorial unit NUTS2) and also the collective passenger transport within smaller areas. Such solutions enable reducing the number of travels made by individual modes of transport. Another interesting project, developed on the initiative of public entity, refers to car-sharing – solution which can be recognized as a step towards shaping the sustainable development of urban transport.

5. Conclusion

By analysing the development of PPP market in Poland we can see that the scope and effective implementation of such projects depend on numerous elements. Clearly, the fundamental importance refers to e.g. proper selection of PPP model, partners or source of funding. Apart from that, extremely important are economic conditions and legal requirements existing in a particular country. The article indicates, *inter alia*, that when the second act on PPP entered into force in Poland, more PPP projects started to be successfully implemented. Undoubtedly the greater number of organizations supporting the implementation of projects has contributed to the success, as well as publishing information on good practices, developing models of documents and cooperation between various stakeholders on the national and international level. On the Polish market we can still see barriers to the development of PPP market, but the commitment of numerous actors makes it possible to overcome them successfully. While referring to the PPP transport projects, we can see that from the perspective of infrastructure projects related to the construction of motorway sections were completed as well as the infrastructure-oriented investments in the cities. Thanks to PPP the collective passenger road transport services are rendered. So far the scale of PPP transport projects has not been significant, and undoubtedly the possibilities provided by this solution, related also to shaping the sustainable development of transport, have not been fully appreciated. However, the planned transport projects bring hope for improvement. The projects include high-value ventures planned by governmental administration, which is a new trend on the Polish PPP market. The modernization and construction of roads is as important as the investments related to inland waterways. Moreover, projects on city infrastructure are still developed. Due to limited volume of the article the conducted analysis and characteristics of transport projects is overall and general. In order to provide the sources of successes and failures of PPP transport projects and to provide more detailed information on market trends, it would be advisable to conduct more detailed analysis of particular projects.

REFERENCES

ACCCWS (2016): ***Act of 21 October 2016 on the Concession Contracts for Construction Works or Services*** (Journal of Laws of 2016, item 1920)

Act on the PPP (2005): ***The Act of 28 July 2005 on PPP*** (Journal of Laws, item 1420 as amended)

Act on the PPP (2008): ***The Act of 19 December 2008 on PPP*** (Consolidated text, Journal of Laws of 2017, item 1834)

ACWS (2009): ***Act on Concession for Construction Works or Services*** (Consolidated text, Journal of Laws of 2015, item 113)

Central Statistical Office (2017): ***Concise Statistical Yearbook of Poland***, Warsaw.

Council of Ministers (2017): Rada Ministrów, ***Polityka Rządu w Zakresie Rozwoju Partnerstwa Publiczno-Prywatnego*** (***The Government Policy for the Development of PPPs. Poland***), July, Warsaw, (RM-111-83-17)

European Commission (2003): ***Guidelines for Successful Public-Private Partnerships,*** COM (2000) 275 final

European Investment Bank, EPEC (2018): Market Update. Review of the European PPP Market in 2017, Luxembourg. March, http://www.eib.org/attachments/epec/epec_market_update_2017_en.pdf (accessed 31 March 2018)

GDDKiA (2013): (Generalna Dyrekcja Dróg Krajowych i Autostrad), ***Jakie są dalsze kroki dla polskich dróg w modelu PPP***, Warszawa, April., http://ippp.pl/wp-content/uploads/2013/04/Drogi_GDDKiA.pdf (accessed 31 March 2018)

GDDKiA (2018): (Generalna Dyrekcja Dróg Krajowych i Autostrad), https://www.gddkia.gov.pl/pl/926/autostrady (accessed 31 March 2018)

Grzelakowski A.S. (2009): ***Modele PPP i ich zastosowanie w sferze finansowania rozwoju infrastruktury transportu w krajach UE***, Prace Wydziału Nawigacyjnego Akademii Morskiej w Gdyni, nr 23, pp. 5-23.

Hodge G., Greve C. (2018): ***Contemporary public-private partnership: Towards a global research agenda***, Financial Acc & Man., 34, pp. 3-16, https://doi.org/10.1111/faam.12132, (accessed 1 March 2018)

Institute for PPP (2018): Instytut PPP, ippp.pl (accessed 31 March 2018)

Ittmann H.W. (2017): ***Private-public partnerships: A mechanism for freight transport infrastructure delivery?***, Journal of Transport and Supply Chain Management 11(0), a262, pp. 1-13, https://doi.org/10.4102/jtscm.v11i0.262, (accessed 1 March 2018)

Korbus B., Srokosz T., Wawrzyniak M. (2010): ***Partnerstwo Publiczno-Prywatne. Poradnik***, Korbus B. (ed.) Urząd Zamówień Publicznych, Warszawa, pp. 1-156, https://www.uzp.gov.pl/__data/assets/pdf_file/0017/24713/Partnerstwo_publiczno_prywatne.pdf, (accessed 1 March 2018)

Korbus B., Zalewski D., Szymański K. (2017): ***Analiza rynku ppp za okres od 2009 do 30. czerwca 2017***, Korbus B.(ed), Instytut PPP, Ministerstwo Rozwoju, Warszawa, pp.1-115, https://www.ppp.gov.pl, (accessed 1 March 2018)

Kozłowska A. (2016): ***Partnerstwo Publiczno-Prywatne w Polsce. Doświadczenia i szanse na przyszłość***, Analiza Instytutu Sobieskiego, nr 80, July, Warszawa, pp.1-47, http://www.sobieski.org.pl/wp-content/uploads/R080-2016-VII-Koz%C5%82owska-PPP.pdf (accessed 1 March 2018)

Medda F. R., Carbonaro G., Davis S. L.: (2013): ***Public private partnerships in transportation: Some insights from the European experience***, IATSS Research 36, pp. 83-87, http://dx.doi.org/10.1016/j.iatssr.2012.11.002, (accessed 1 March 2018)

Ministry of Investment and Economic Development (2017a): Ministerstwo Inwestycji i Rozwoju, ***Baza projektów PPP z podpisanymi umowami – June 2017***, https://www.ppp.gov.pl/baza/Strony/baza_projektow_ppp.aspx (accessed 10 March 2018)

Ministry of Investment and Economic Development (2017b): Ministerstwo Inwestycji i Rozwoju, ***Baza zamierzeń inwestycyjnych PPP – December 2017***, https://www.ppp.gov.pl/baza/Strony/baza_projektow_ppp.aspx (accessed 24 March 2018)

NBP (2018): National Bank of Poland, http://www.nbp.pl/ home.aspx?f=/statystyka/kursy.html (accessed 5 April 2018)

Nidziy E. (2017): ***Financing the construction of transport infrastructure as the basis for sustainable development of the regional economy***, IOP Conference Series: Earth and Environmental Science 90, 012172, pp. 1-6, doi: 10.1088/1755-1315/90/1/012172, (accessed 1 March 2018)

NIK (Najwyższa Izba Kontroli) (2013): ***Realizacja przedsięwzięć w systemie partnerstwa publiczno-prywatnego. Informacja o wyniku kontroli***, Warszawa, https://www.nik.gov.pl/plik/id,4883,vp,6353.pdf (accessed 31 March 2018)

Polyakova I., Vasilyeva E., Vorontsova N. (2017): ***Transformation of Infrastructure Projects for Sustainable Development of the Transport Complex***, IOP Conference Series: Earth and

Environmental Science 90, 012136, pp. 1-8, doi: 10.1088/1755-1315/90/1/012136, (accessed 1 March 2018)

PPP Center (2018): Centrum PPP, www.centrum-ppp.pl (accessed 31 March 2018)

PPP Platform (2018): Platforma PPP, www.ppp.gov.pl (accessed 31 March 2018)

PPP Platform office (2015): Sekretariat Platformy PPP, ***Działania Ministerstwa Infrastruktury i Rozwoju w zakresie partnerstwa publiczno-prywatnego***, Ministerstwo Infrastruktury i Rozwoju, Warszawa, http://www.ppp.gov.pl (accessed 31 March 2018)

Rall J., Reed J.B., Farber N.J. (2010): ***Public-Private Partnerships for Transportation. A Toolkit for Legislators***, National Conference of State Legislatures. The Forum for America's Ideas, Washington, http://www.ncsl.org/documents/transportation/ppptoolkit.pdf, (accessed 1 March 2018)

Sanni A.O., Hashim M. (2014): ***Building infrastructure through Public Private Partnerships in sub-Saharan Africa: Lessons from South Africa***, Procedia – Social and Behavioral Sciences 143, pp. 133-138, doi: 10.1016/j.sbspro.2014.07.374, (accessed 1 March 2018)

Shibayeva M., Serebryakowa Y., Shalnev O. (2017): ***Efficiency improvement of the investment and innovation activities in the transport facility construction field with public-private partnership involvement***, IOP Conference Series: Earth and Environmental Science 90, pp. 1-6, 012170, doi: 10.1088/1755-1315/90/1/012170, (accessed 1 March 2018)

World Bank (2017): ***Public-Private Partnerships: Reference Guide Version 3***, World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/29052 License: CC BY 3.0 IGO, pp. 1-224 (accessed 1 March 2018)

Zembri-Mary G. (2017): ***Planning transport infrastructures in an uncertain context. Analysis and limits to contemporary planning in France***, Eur. Transp. Res. Rev. 9:51, pp. 1-13, DOI 10.1007/s12544-017-0266-4, (accessed 1 March 2018)

6

Globalna ekonomija & Održivi razvoj

Global economy & sustainable development

Josip Britvić, univ. spec. oec
Top Consult Group Ltd.
M.P.Miškine 88, 48363 P.Sesvete, Croatia
Phone: + 385 99 2897 601
E-mail adress: josip.britvic@top-consult-grupa.hr

Vladimir Grebenar, PhD
Vinkoprom Ltd. / University College Nikola Subic Zrinski
Zlatana Sremca 47, 32100 Vinkovci / Selska cesta 119, 10000, Zagreb, Croatia
Phone: 00385994394044
E-mail address: vladimir.grebenar@gmail.com

OPEN-BOOK MANAGEMENT IN INTEGRATION WITH OTHER MODELS AND THEORIES

OPEN-BOOK MENADŽMENT U INTEGRACIJI S DRUGIM MODELIMA I TEORIJAMA

ABSTRACT

Modern management and excellence as a constant goal is based on the assumption of high work motivation and efficiency of work. Excellence in business processes implies the integration of modern process management models and employees. It is practically impossible to respond to excellence requests, and to integrate only one or fewer control models. The company is a very complex system, and human resource management demands from management and designers of the organization of work a modern management theoretical knowledge and leadership skills. Increasing business efficiency can be generated when integrating multiple complementary management models into an enterprise. In this paper, the selected company analyses the effects of integration of several selected control models: Balanced Scorecard, Open-Book Management, MACS, Work-based Compensation System based on Vroom's Expectation Theory and Equity Theory. The fundamental question in this paper is how to design work organization and compensation system, and that worker expectations are based on objective circumstances of the organization, i.e. to eliminate subjectivity in anticipation. Two assumptions are important for the powerful impact of a well-designed system for measuring efficiency and compensation for work motivation factors „Open-book management“ and “Theory of justice”. The main goal of the paper is to determine the most well-designed Efficiency Measurement Systems and Work Compensation Systems based on the theory of fairness and access to information "Open-Book Management" have a direct impact on as objective workers' expectations as possible. This paper investigates the case study of Vinkoprom Ltd from Eastern Slavonia, and the research provides insights into the application of "Open-Book Management", a modern business performance measurement system and a work-based compensation system based on "expectation theory" and "theory of justice".Research methodology used in this paper is qualitative and deductive research methodology.Business success cannot be achieved without people, and it is not possible to plan long-term sustainability of the company if it does not invest in professional employee building. Application of the "Open-book management" is a challenging project that must be integrated with other modern management models and people governance models.

Key words:*Open-book management, Balanced Scoredard, Theory of justice, Work compensation system, work motivation factors.*

SAŽETAK

Pretpostavlja se da je izvrsnost i suvremeno upravljanje temeljeno na visokoj radnoj motivaciji i efikasnosti rada.Izvrsnost u poslovnim procesima podrazumijeva integraciju suvremenih modela upravljanja i zaposlenika. Gotovo je nemoguće odgovoriti na zahtjeve izvrsnosti implementacijom samo jednog kontrolnog modela. Organizacije su vrlo složeni sustavi kojekako bi uspješno upravljale ljudskim resursima zahijevaju najmodernija teorijska i upravljačka znanja menadžera u ljudskim resursima. Povećanje radne učinkovitosti u organizaciji moguće je integracijom međusobno višestruko komplementarnih sustava upravljanja. U radu na analizranoj organizaciji promatrani su efekti nekoliko odabranih kontrolnih sustava: Balanced Scorecard, Open-Book Management, MACS, Sustav kompenzacija rada temeljen na Vroomovoj teoriji očekivanja i pravičnosti. Temeljno pitanje ovog rada je kako kreirati organizaciju I kompenzacijski sustav a da su pritom očekivanja radnika temeljena na objektivnim okolnostima organizacijskog konteksta. Dvije pretpostavke su važne za učinkovitu primjenu kvalitetno dizajniranog sustava mjerenja efikasnosti i kompenzacije rada a to su „Open-book management" and "Theory of justice". Osnovni cilj ovog rada je utvrditikako su dizajnirani dizajnirani sustavi mjerenja učinkovitosti i sustavi kompenzacije rada temeljeni na teoriji pravičnosti i primjeni Open-Book Managementa. Prethodno spomenuti sustavi imaju direktan utjecaj na shvaćanje zaposlenika da su njihova realna i ostvariva. Kroz ovaj rad analizirana je kompanija Vinkoprom d.o.o. iz Istočne Slavonije te istraživanje daje pogled u primjenu "Open-Book Managementa"i drugih modernih alata za mjerenje poslovne uspješnosti organizacije I kompenzacijskog sustava temeljenog na "teoriji očekivanja" i "teoriji pravičnosti". U radu je korištena kvalitativna i deduktivna istraživačka metodologija.Poslovni uspjeh nemože se ostvariti bez zaposlenika, te nije moguće planirati dugoročnu održivost komapnije ako se ne ulaže u profesionalni rast i napredovanje zaposlenika. Primjena "Open-Book management" izazovan je projekt koji mora biti integriran s ostalim suvremenim sustavima upravljanja ljudskim resursima.

Ključne riječi: *Open-book management, Balanced Scoredard, teorija pravičnosti, , teorije i modeli radne motivacije, mjerenje radne učinkovitosti, sustav kompenzacije rada.*

1. Introduction

There are two fundamental benefits of system integration measuring business performance of segments and business processes in quality management, the first allowing management objectivity in the evaluation of the results achieved during the specified time period, and the other is what the historical data collected measurements create all credible data base for standardization of costs and accurate cost calculations. If some process, instead of human effort and intelligence were to be controlled by a machine, it would have been possible for two purposes to conclude that the quality of the process could not be achieved without precision measurement. However, managers manage processes, and responsibility for carrying out activities is on human resources. The quality of performing activities through the work of human resources is directly influenced by the motivation for work. Motivation for work is directly influenced by many factors from man's working and living environment, and business performance measurement systems, if they are well-designed, can directly affect the factors of business environments that are of great importance to work motivation. Modern management and excellence as a constant goal is based on the assumption of high work motivation and efficiency of work. Excellence in business processes implies the integration of modern process management models and employees. It is practically impossible to respond to excellence requests, and to integrate only one or fewer control models. The company is a very complex system, and human resource management demands from management and designers of the organization of work a modern management theoretical knowledge and leadership skills.Increasing business efficiency can be generated when integrating multiple complementary management models into an enterprise.In this paper, the selected company analyses the effects of integration of several selected control models: Balanced Scorecard, Open-Book Management, MACS, Work-based Compensation System based on Vroom's Expectation Theory and Equity Theory.

In contemporary literature, there is insufficiently defined scope for connecting different theoretical models to an interpretative holistic framework, i.e. the conceptual framework for understanding the complementarity of the factors of the theoretical models of process management, work motivation and work-compensation. Literature is mainly related to the research results of one model testing on selected organizations. A practical problem is in the fact that designers of the organization of work, efficiency measurement and compensation work are lacking a better conceptual framework for understanding the most important factors that affect excellence and which would have the purpose of guiding the creation of innovative labour organizations.

The fundamental question in this paper is how to design work organization and compensation system, and that worker expectations are based on objective circumstances of the organization, i.e. to eliminate subjectivity in anticipation.

Two assumptions are important for the powerful impact of a well-designed system for measuring efficiency and compensation for work motivation factors:

1. „Open-book management " and
2. Theory of justice.

   The basic premise of the paper is that the most well-designed Efficiency Measurement Systems and Work Compensation Systems based on the theory of fairness and access to information "Open-Book Management" have a direct impact on as objective workers' expectations as possible.

2. Methodology

This paper investigates the case study of Vinkoprom Ltd., from Vinkovci, the application of the "Open-book Management" model of enterprise management and the application of Vroom's theoretical model of expectations. Although Kaplan-Norton's six-step management strategy (known as the Balanced Scorecard model) has been integrated into the company, the "Open-Book Management" model, which refers to the availability of financial information to employees, was also used through the transition of the organization. The work organization is designed so that key employees expect their work-compensation expectations to be based on the efficiency measurement system. The business case is an example of the transition of a fast-growing Croatian company, managed by a proprietary entrepreneurial style, to an intra-entrepreneurial organization of work based on a strong delegation of responsibility to and organization by the centres of responsibility. According to Yin R.K. (1994: 20), the case method answers the questions: "who", "where", "what", "how" and "why". This paper answers the questions: "who", "where" and "why". The paper is written on the example of the company Vinkoprom Ltd. from Eastern Slavonia, and the research provides insights into the application of "Open-Book Management", a modern business performance measurement system and a work-based compensation system based on "expectation theory" and "theory of justice". An enterprise is analysed and analytical generalisation is performed based on acquired knowledge.

In addition to the method of case study, a review and historical method of processing information from other authors' works in the area of interpretation of the Open-Book Management model as a management model has been applied. In addition, the area of interpretation of the theory of justice linked to work-compensation systems is being explored. The paper seeks to link the elements of one and the other theory to the purpose of understanding the complementarity of theory. Both theories relate to work-compensation systems, i.e. the descriptions of terms and basic assumptions link these two theories into a holistic interpretative framework. Validation of collected and synthesized data is based on the scientific foundation of theoretical models that are present in a growing number of relevant literature covering the field of psychology of work, work compensation and modern management.

3. Research

Modern approaches to the interpretation of the positive and negative forms of work motivation are based on the assumption that external factors are influenced by behavioural patterns, that is, external factors have influenced the tendencies and behaviours over time. Categorization of external factors of work motivation can be classified into two groups considering the environment:
1. factors from the personal environment and
2. factors of the working environment.

Undoubtedly, every employee with them in a business organization brings behaviour determined by a combination of factors from a personal environment that are conditioned by family circumstances, education, reference social groups, and social interactions with an environment outside the working environment. On the other hand, the working environment is a living space in which a person with full consciousness lives up to a third of lifetime and as such is of particular interest in the psychology of work. The quality of life of an individual is directly determined by the pleasure of experiencing experience in private and professional life, or lived experience in the personal and working environment. It is very important to know that the possibility of personal and professional growth of an individual is directly determined by factors of the working environment, i.e. personal income and opportunities for growth through a professional career. Business management does not have a significant impact on the (non) preference of an individual by job profession, this is a matter of proper selection of staff and workplace. However, it is the responsibility of the management to create an extrinsic organization of work that positively influences work motivation. Such an organization is a powerful foundation and a driver of innovation, strengthening of competitiveness and achieving better working and business efficiency. Only the factors from the working environment of employees are relevant in this paper.

The underlying problem is that the understanding of different motivation theories and patterns of worker behaviour demand from management designing efficiency measurement systems with strong interdisciplinary knowledge, at least in the areas of management, psychology and accounting. Theories of work motivation and employee behaviour patterns have been complemented and built over the years through various authors, groups of authors, academic institutions and scientific areas. Psychology of work is an area of great managerial interest (strategic, operational, project, marketing) and an increasing interest in accounting (managerial accounting). There is a significant gap in the literature approaching these areas. The main interpretation of the factors of work motivation in the literature of other scientific disciplines is based on one or two theories, and often the divergent theories are chosen.

Contemporary research shows that formal rewarding systems associated with efficiency measuring systems over time lose their immediacy. Management who wants to retain "humanity" in the awarding of prizes can spontaneously award prizes, and this proved to be a very useful motivational technique. Spontaneous awarding has the purpose of correcting any deficiencies in the efficiency measurement and compensation system. Employees love when spontaneous awards are awarded, as it communicates along with formal working, measurement, rewarding frameworks that management believes in employees, even when they do not achieve set specific goals. However, even spontaneous employee rewarding must be based on measurement systems of business efficiency, because everything that can be measured can be said or spontaneous rewarding can not be based on subjective ratings of superiors.

Over the last few decades, several theory of work motivation and interpretative models of human behaviour have been developed, relevant to managers who introduce measurement and reward systems. One of the most important theories is Vroom's theory of expectations. According to the theory of expectations, the critical variable is the expectation that the worker has in relation to the effect and the award for the effort invested in the work. Vroom assumed three elements in his model:

1. expectation,
2. instrumentality and
3. value.

Employee satisfaction does not depend so much on the instrumentality that measures the performance, as well as on the valuation of the awards received compared to the expectation. According to Vroom, the worker compares the first and the third element. The prize, which is less than expected, will cause the worker's lack of satisfaction and his further motivation for work is questionable. Vroom's theory is based on the cognitive evaluation process received in relation to the expected.

In addition to Vroom's theory, it is also important to mention Herzberg's theory of two groups of factors, hygienics and agents. According to Herzberg's research, work motivation cannot be achieved if the hygiene of the work organization is not arranged, and the fair distribution of pay and the transparency of the procedure are prerequisites for greater work motivation.

Strong impact on motivation for work has the implementation of the "Open-book Management" model. *„What is OBM?This is a way of managing a company transparently, without concealing information, motivating employees to make efforts to increase business efficiency and increase intellectual capital. “*(Aggarwal, R. i Simkins, B., 2001: 5).

Author of the "Open-Book Management" model John Case assumes*„...when the books are open, everyone can see what's going on. It is harder for managers to fall back on excuses or to point the finger at someone else. Open-book management gets people involved and helps them take responsibility rather than shirk it. It is a way by which everyone in the business can hold each other accountable. “*(1996: p. xxi).

Company Vinkoprom Ltd. implemented in their work organization a very precise measurement system operating efficiency (MACS) and a work compensation system based on the theory of justice, and through the strategic model of the Balanced Scorecard the model "Open-book management" is integrated. The company operates in Eastern Slavonia through twenty trading units, and the main activity is retail and wholesale of non-food merchandise. Every year, in 2015, a strategic management model is being implemented in the company and the organization that learns is being built. The company is ideally suited to the analysis given the difficult circumstances of the entrepreneurial environment in which it operates. According to the GEM Survey (2016), entrepreneurial environments in the Republic of Croatia have very weak ratings in terms of stimulating macroeconomic measures and measures of economic policy for entrepreneurship. The region of Eastern Slavonia recorded the increasing rates of migration of the domicile population. The region was hit by the war consequences of the '90s that are most pronounced in economic indicators (low GDP per capita, low average wages, and high unemployment rate). In addition to the negative macroeconomic indicators, the management of the company faced an exceptional organizational challenge of the transition of a family enterprise with centralized decision-making to a strategically managed enterprise organized according to the centres of responsibility and with a strong intra-entrepreneurial culture.

The management of the company has managed to redesign processes, increase business efficiency, increase salaries to employees, create a learning organization, integrate a new quality system and intra-entrepreneurial culture in three years, and build the foundation for a new growth of the enterprise.

In their work "Open Book Management - Optimizing Human Capital" Aggarwal, R. and Simkins, B. (2001: 9) propose four key steps for model implementation, i.e. providing information to employees:

1. reducing information asymmetry to employees - make information available
a. provide financial information,
b. offer prizes,
c. announce the value of the company,
2. instruct the employees about basic financial and business performance benchmarks,
a. teach your employees in order to understand finance,
b. teach your employees in order to control costs,
c. teach your employees how to read the financial statements,
3. teach your employees to make decisions based on what they have learned,
a. provide employees with information on sales, gross margins and profits,
b. create an organization of accountability centres,
c. relate to employees as partners,
4. be sure that everyone is participating in the company's success,
a. reward employees for business success,
b. link the expected awards with the financial standards that employees can understand and have an impact and
c. create an ESOP plan.

By analysing the case at the selected company, and based on the proposed four steps of the "Open-Book Management" implementation, general findings can be generalized with all the challenges faced by a single Croatian company in a post-transitional entrepreneurial environment.

3.1. Reducing information asymmetry

Providing important financial information about a company is not the case in posttranslational companies. There is a prevailing view that such information may endanger the business of a company by using competitive business information on financial performance indicators and making decisions that would endanger the company. Such an approach to the dissemination of financial information to a limited number of key employees has a very low impact in encouraging employee motivation. Employees can not base their expectations on objective benchmarks, and work in the enterprise is perceived as a necessity. Vinkoprom Ltd., after integrating a new business performance measurement system, provided information on the financial indicators of all business segments to key management, or to a larger number of employees. However, providing such information did not generate the expected efficiency improvement proposals. The possibility of rewarding for better results did not create neither the greater motivation nor the higher level of responsibility compared to the state before disclosing information.

3.2. Organizational learning

Systematic and continuous organizational learning has not produced short-term effects based on which the key employees would suggest better solutions and take responsibility. The company continued to invest significant financial resources in formal college education with over twenty employees and in professional training and training of employees at all levels of the organization. After a period of two years of continuous formal and informal education, organizational culture began to change significantly. Key employees began to take responsibility and initiative in the processes they manage. However, such attempts often looked like attempts to change less important processes or the proposed goals and projects were unrealistic and unmanageable in the circumstances. Workers in operational tasks often reacted with ridicule to changes and with a lack of confidence that the organization can achieve the set strategic objectives and that their role in this tasks matters.

3.3. Capacity building for decision-making with a higher level of risk and responsibility

By continuing formal and informal education, key employees became more capacitated in taking over responsibilities and making decisions that they can plan, execute and control after two years. Supreme Management carefully selected internal organizational projects and assigned responsibilities to subordinate managers. Through a period of two years, there was no problem in finding personnel solutions. It was possible to evaluate exactly which one of the employees could take over each specific centre of responsibility. The acquired training in management accounting, marketing and project management has been critically important for acquiring knowledgeable skills in organization and delegating responsibility, decentralization of decision-making. This step was the most sensitive in the business organization.
Key employees took over responsibilities, and the role of top management was to steer professional management skills in these circumstances by making the method an attempt - a mistake desirable and welcome. In this way, key employees were relieved of pressure from possible downsides and disappointments. In addition, awards for qualitative work were also introduced if the financial results were left out. For example, if a manager has done the planned activities the best he knew and could and the expected effectiveness was missing, such efforts were rewarded.Employees have thus gained a sense of trust in the company, and this has directly influenced the awareness of key employees that the most important long-term processes are the most important, and that long-term planning and decision-making has priority over every short-term benefit. Becoming key employees on the side of the organization and with positive attitudes about organizational changes was crucial to bringing this awareness to workers in operational affairs.

3.4. Fairness in rewarding results achieved

The company has integrated a highly accurate Segment Business Segment measurement system in short (monthly and daily) intervals. Such information has enabled plans to be created and controlled for shorter periods, and to make the work-compensation system exemplary. The worker appreciates the monthly prize he can get from the chance to gain more income at the end of the year. The company has introduced a new work-compensation system with two key elements: a permanent and variable part of the salary. The variable part of the salary is directly determined by the financial indicators on the monthly and cumulative realizations of the segment. The fixed part of the salary is modelled so that a constant salary is influenced by a number of variables that are directly influenced by workers such as vocational qualifications, certificates of professional development and training, ECTS credits etc. Employees are presented with a new compensation system that rewards workers with higher knowledge, which can be proven by various certificates. Such a measure has had a strong impact on building an organization that is learning. A new way of compensating work has strongly influenced employees' awareness that every individual in the organization has the responsibility for their own future.

4. Conclusion

The application of the "Open-Book Management" model of enterprise management requires top management to integrate as many different models of process management and of people management, and are based on modern management theories. Attempting to introduce this model in the organization and without a holistic approach to the work organization cannot generate the

expected results. The company is a complex system and therefore the problem of organization is complex, which requires a special approach, systematic, long lasting and patient.
The application of "Open-Book Management" in integration with other models and systems can generate excellent business results, despite the negative macroeconomic indicators of entrepreneurial environments and in very sensitive circumstances, when the decentralization of decision-making and the delegation of responsibilities should be implemented, the example being the selected company.
Business success cannot be achieved without people, and it is not possible to plan long-term sustainability of the company if it does not invest in professional employee building. Lifelong learning can be motivating for an employee if employee expectations are based on objective benchmarks and if the awards for results are foreseeable and in the perception of workers worth the effort.
Providing information to employees on financial indicators and financial plans has a strong motivational incentive to business efficiency. Results should be expected after a certain period, short-term effects should not be expected.
Application of the "Open-book management" is a challenging project that must be integrated with other modern management models and people governance models.

REFERENCES

Aggarwal, R., Simkins, B. (2001). *Open Book Management. Optimizing Human Capital*. Business Horisons.
Alderfer, C. (1977). *A critique of Salancik and Pfeffer's examination of need-satisfaction theories.* Administrative Science quarterly, 22: 658-672

Case, J. (1996). *Open-Book Management. Coming business Revolution*. Harper Business. New York.

Herzberg, F. (2000). *One more time: How do you motivate employees?*. HBR. 53-62.

Lawler, E., Porter, L. (1967). *Antecedent Attitudes of Effective Managerial Performance.* Organizational Behavior and Human Performance 2, 122—142.

Maslow, A. (1970). *Motivation and personality*. New York. Harper & Row

McClelland, D. (1971). *Assesing human motivation*. New York. GLP

McGregor, D. (1960). *The human side of entreprise*. New York. McGraw-Hill

Mulcahy, R. (2013). *PMP Exam Prep*.

Porter, L. Bigley, G., Steers, R., (2003). *Motivation and Work Behavior*. Mcgraw-Hill. New York.

Ryan, M., Deci, E. (2000). *Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being.* American Psychologist. Vol 55, No 1, 68-78

Stack, J., Burlingham, B. (2003). *A Stake in the Outcome. Building a Culture of Ownership for the Long-Term Success of Your Business*. Doubleday.

Tremblay, M., Blanchard, C., Taylor, S., i dr. (2009). *WEIMS: its Value for Organizational Psychology Research. Canadian Journal of Behavioral Science*. Vol 41, No 4, 213-266.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

Whetten, D., Cameron, K. (2007). *Developing Management Skills*. New Jersey. Upper Asddle River.

Lejla Ćebić Đerzić, MA
RMU „Banovići“, d.d. Banovići
Address: Armije BiH 52
Tel: +38761 640 372
E-mail address: lejla_cebic@hotmail.com

Sabina Đonlagić Alibegović, associate professor
Faculty of Economics University in Tuzla
Address: Fakultetska 2, 75000 Tuzla
Tel:+387 62 246 534
E-mail address: sabina.djonlagic@untz.ba

Mersiha Mešanović, M.Sc.
JP „Elektroprivreda BiH“ d.d. Sarajevo
ZD RMU „Đurđevik“ d.o.o. Đurđevik
Address: Đurđevik b.b.
Tel: +38762 285 036
E-mail address: mersihamesanovic@yahoo.com

Samira Fazlić, associate professor
Faculty of Economics University in Tuzla
Address: Fakultetska 2, 75000 Tuzla
Tel:+387 61 800 889
E-mail address: samira.fazlic@untz.ba

APPLICATION OF CORPORATE GOVERNANCE PRINCIPLES AND ITS IMPACT ON COMPANY'S SUCCESS

UTJECAJ PRIMJENE PRINCIPA KORPORATIVNOG UPRAVLJANJA NA USPJEŠNOST KOMPANIJA

ABSTRACT

Corporations' environment is undergoing continuous changes and in such an unstable environment adequate corporate governance is becoming more important in achieving stability and companies' business success. Turbulent and unstable environment represents a threat of a potential crisis for the company and because of that owners and managers are challenged to find new ways to ensure company's survival and long term prosperity. Adequate corporate governance (better protection of stockholders' interests as well as other stakeholders etc.) is important for improving companies' image on the market, attracting new investors through maintaining company's stock price and achieving better competitive position. The compliance with corporate governance principles is a norm for all listed companies in developed countries. The research question that informed the research on this topic in Bosnia and Herzegovina was: What is the level of application of corporate governance principles in B&H and what is its impact on company's success? The main aim of this research is to clarify the importance of good corporate governance in company's success and prove (based on scientific facts) that better corporate governance and practical application of corporate governance principles have a significant impact on companies' success. The research design entailed analysis of secondary data and a qualitative data analysis. The research included companies listed on the Sarajevo and Banja Luka stock exchange. Results and discussion indicate *that better implementation of corporate governance principles has significant impact on companies' success.*

Keywords: *corporate governance, corporate governance principles, business success, organizational performance.*

SAŽETAK

Okruženje kompanija se kontinuirano mijenja i u takvom nestabilnom okruženju kvalitetno korporativno upravljanje postaje sve važnije za postizanje stabilnosti i uspješnosti kompanije. Turbulentno i nestabilno okruženje doprinosi prijetnji nastanka krize kompanije, zbog čega se vlasnici i menadžeri nalaze pred izazovom iznalaženja novih načina da se osigura opstanak kompanije i dugoročni prosperitet. Adekvatno korporativno upravljanje (bolja zaštita interesa dioničara i ostalih stakeholdera i dr.) je važno za unapređenje imidža kompanije na tržištu, privlačenje novih investitora kroz zadržavanje cijene dionica kompanije i ostvarivanje bolje konkurentske pozicije. Primjena prinicpa korporativnog upravljanja je standard za sve kompanije koje posluju na berzama u razvijenim ekonomijama. Istraživačko pitanje koje je oblikovalo ovo istraživanje u Bosni i Hercegovini je glasilo: koji je nivo primjene principa korporativnog upravljanja u BiH i koji je njihov uticaj na uspješnost kompanija? Osnovni cilj ovog istraživanja je da razjasni važnost dobrog korporativnog upravljanja za uspješnost kompanija i da se, temeljem naučnih činjenica, dokaže njiihov značajan uticaj na uspješnost kompanije. Istraživanje se temeljilo na analizi sekundardnih podataka, kao i kvalitativnoj analizi primarnih podataka. Istraživanjem su obuhvaćene kompanije koje su listirane na berzama u BiH. Rezultati i diskusija indiciraju da bolja implementacija principa korporativnog upravljanja ima značajan uticaj na uspješnost kompanija.

Ključne riječi: *korporativno upravljanje, principi korporativnog upravljanja, uspješnost kompanija, organizacijske performanse.*

1. Theoretical background

Corporate governance is defined as set of relations among various stakeholders of a corporation: management, boards, stockholders and other stakeholder groups. Corporate governance defines a framework for setting goals and determining resources for achievement of those goals and monitoring of performance and effectiveness. (OECD,1999) Corporations' environment is undergoing continuous changes and in such an unstable environment adequate corporate governance is becoming more important in achieving stability and companies' business success. Turbulent and unstable environment represents a threat of a potential crisis for the company and because of that owners and managers are challenged to find new ways to ensure company's survival and long term prosperity. Theoreticians and practitioners agree that in contemporary business conditions and increased competition development of good corporate governance practice is crucial for survival and development of corporations, profit and competitive advantage.

Bosnia and Herzegovina is a transition economy in which good corporate governance practices are not developed. Development of corporate government practices would contribute to better property protection, increase of value of state owned companies and make them more attractive to investors and strategic partners. Companies in Bosnia and Herzegovina did not recognize importance of good corporate governance. Therefore, it is of importance to investigate the corporate governance phenomena in these companies.
Modern corporations are expected to create wealth in a responsible way for all companies' stakeholders. Corporate governance includes a number of principles: equal treatment of all stakeholders, protection of minority shareholders, transparency, role of supervisory board and audit

committee, corporate social responsibility. Good corporate governance should stimulate the board and management to follow the goals which are in the interest of the corporation and stockholders encouraging them to efficiently use their resources. (Corporate governance Manual for companies in B&H, 2009). Corporate governance is a modern and specific way of managing companies in market economy (so called corporations as specific institutional forms of enterprise organization) which is in various ways different from traditional entrepreneurial management of companies. (Kurtić, 2011)

Management is closely tied to decision-making and corporate governance is related to the decisions which are related to equity owners. Corporate governance is associated with private property, owner of capital manages the corporation and decisions of owners are by hierarchy above those of the management structure. The owners set up top-management whose role is strategic planning, strategic managing and protection of equity owners which defines the relation between corporate governance and management of corporations. Corporate governance defined as set of relations among corporation´s management, its board, its stockholders and other interest groups is one of key elements in improvement of corporate effectiveness (Hatunić & Kuč, 2009).

Main areas of corporate governance are related to power, influence, authority and responsibility within complex business systems which are called corporate governance principles. The phrase "good corporate governance" is understood as efficient implementation of corporate governance principles. These corporate governance principles should help the board determine how to run a company to achieve its business purpose. Though there are many different views on what are most important corporate governance principles, in this paper we will focus on these five defined by the OECD:

- transparency
- rights of shareholders
- role and responsibility of supervisory board
- audit committee
- corporate social responsibility

Transparency in business is necessary to all stakeholders, equity owners and managers as well as other stakeholders. Transparency of information is the basic right of all shareholders, due to fact that corporations issue stocks and sell them to investors in order to get new capital. If a corporation is transparent its shareholders will have more confidence in its management and they (and other) investors will be more willing to invest in the company.

Rights and protection of shareholders as a corporate governance principle is related to their ability to influence behavior of corporations. Some of the shareholders´ rights include access to relevant information, participation in decision-making, fair use of voting rights etc. In the past years there have been some changes in shareholder engagement which has become an important topic for companies´ boards, management and investors. Shareholders are increasingly demanding more rights to participate in strategic decision making and it is expected that this issue will continue to be a critical corporate governance aspect, especially in public companies. Minority or foreign shareholders should be treated equally by boards, management or controlling shareholders.

Transparency and shareholders´ protection is within the competence of *supervisory board*. The place and responsibility of supervisory board makes it the key organ in a corporation because its actions determine the behavior of other corporate organs. Due to the fact that equity owners transfer formal authority to the board allowing it to control and supervise, strategically manage through realization of interests of shareholders, employees and all other stakeholders within its formal and moral responsibility.

The main role of the *audit committee* in a corporation is to oversee production of financial statements and to make sure that they fairly present the financial condition and financial performance of the corporation. Timely disclosure of financial results is very important especially for investors, therefore the audit committee oversees company´s internal controls related to financial reporting. Furthermore, the audit committee maintains connection with external auditors.

Corporate social responsibility is increasingly becoming an important aspect of doing business for companies today. Corporate social responsibility converges on two points: first, it requiers companies to consider social, environmental and economic impacts of their operations, and second, to be responsive to the needs and expectations of their stakeholders.(Rahim, 2013) Corporate governance and corporate social responsibility are complementary because corporate governance is not merely about maximization of stock value, it concerns relationships among many stakeholders involved and goals for which the corporation is governed. (Rahim, 2013)
According to Korent et al. (2014) the assumption is that corporate governance leads to higher level of company success, however, the data on correlation of corporate governance and company performance is scarce. Better corporate governance is supposed to lead to better corporate performance due to the fact that equal treatment for all shareholders will ensure better decision-making which will lead to higher stock price indicating better corporate governance. (Nam, Nam, 2004). Improvement of corporate governance is especially valuable for transition economies since the subject of corporate governance is new for them and the government and private sector have little experience governing market oriented companies. (McGee, 2008) Evidence support the view that corporate governance matters more in countries where the legal and judicial systems for protection of investors are weak. (Nam, Nam, 2004). Therefore, we conducted this research into quality of corporate governance and implementation of its principles and their impact on success of companies in B&H.

2. Research methodology

Bosnia and Herzegovina is one of the last transition economies in this region of Europe. Development of good corporate governance would allow the state to enhance protection of its property, enhance management of state owned companies, increase their market value and make them more attractive to investors and strategic partners. Recent research studies indicate that companies which implement good corporate governance practices achieve an increase in market value. Therefore, we designed a research aiming to determine the quality of corporate governance in bosnian-herzegovinian companies and investigate the influence of corporate governance principles on success of these companies. Based on these presumptions we formulated our research hypothesis "*Implementation of corporate governance principles has positive impact on company´s business success*".

For purpose of understanding the mentioned phenomena and designing our research, development of survey questionnaire we conducted a desk-research, analyzing relevant literature, previous studies and ‚published articles in field of corporate governance. Our field research was conducted as using quantitative data analysis based on data collected through questionnaire survey. For the purpose of this research we designed a questionnaire with three main sections. First section included questions about the company, second section included questions about company´s mission, vision, strategy and the third section included questions about corporate governance practices in the company. The questionnaire included 48 questions in total.

The research population in this study are companies which are listed on Sarajevo and Banjaluka stock markets with active stocks and which are included in stock market indices. The sampling procedure included selecting a portion of the population which represents the enitre population. We adopted a probability sampling method to determin a subset of 40 companies out of the enitre population. We distributed 40 questionnaires and received 30 realiable and completely filled out questionnaires for further analysis.

We conducted multivariate data analysis using the two-group discriminant analysis with support of SPSS software. The objective of this analysis was to classify corporationes by their success based on different dimensions of corporate governance. Independent variables in this model are variables related to quality of corporate governance, dependent variable in the model included two categories of companies-those which are more and those which are less successful(with better and less good business performance). There are several methods for discriminant analyses and we used so called *Enter* method and calculated Eigenvalue, canonical correlation. Wilks´s lambda, discriminant function coefficients etc.

3. Research results

In Table 1 we present avarage values of independent variables for each group of dependent variable. It is evident these values for all seven dimensions of corporate governance are higher with companies belonging to the group of more successful companies. This is considered to be the justification for defining the model for discrimination analysis.

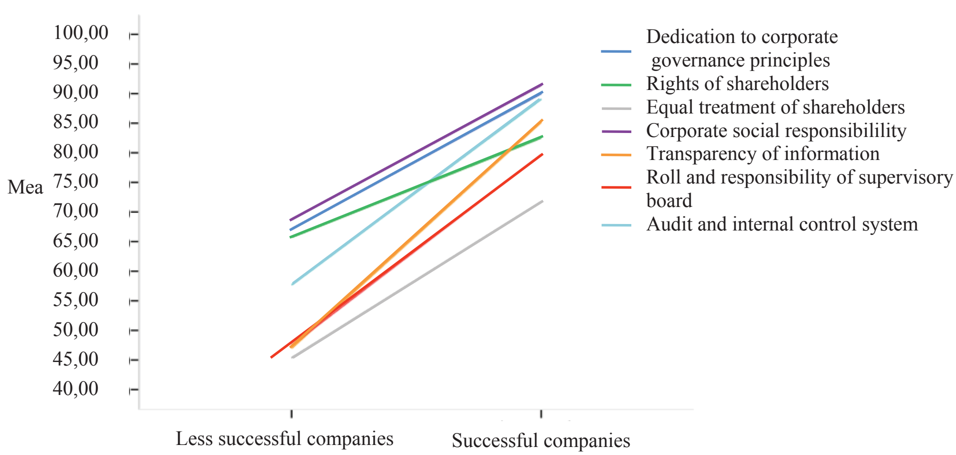
***Table 1** Avarage values and variability of independent variables in model*

	Company´s success					
	Less successful companies			Successful companies		
Score	n	Mean	Std. Deviation	n	Mean	Std. Deviation
Dedication to corporate governance principles	13	67,12	29,31	16	90,00	15,81
Equal treatment of stakeholders	14	65,71	21,56	16	82,50	14,49
Rights of shareholders	14	45,36	27,38	16	71,72	15,16
Corporate social responsibility	14	68,75	33,88	16	91,41	14,23
Transparency of information	14	46,96	31,60	16	85,16	13,31
Role and responsibility of supervisory board	14	47,50	27,42	16	79,69	14,66
Audit and intern controls	14	57,68	36,13	16	89,06	16,12

Source: the authors of the paper

We can see that successful companies are more dedicated to implementing corporate governance principles, and that value for variable "corporate social responsibility" is highest among this group. The value for variable "role and responsibility of supervisory board" is lowest in this group (but it is still higher than the best score within the group of less successful companies).

***Picture 1** Positions of avarage values of dimensions of corporate governance in relation to company success*



Source: the authors of the paper

Canonical correlation is a measure of association between groups in the independent variable and discriminant function and its high value implies a higher level of association. In our study its value is rather high (0,758), a its square equals 0,575, which means that 57,5% of the variance of dependent variable (business success) is explained by the discrimination model. The value of χ^2 test and its statistical significance p<0,005 implicate that we can confirm our main hypothesis. Our discriminant function can be used to classify corporations into two groups rather than without the algorithm of discriminant analysis. Statistical values of the realized discriminant function are presented in the following table (Table 2.)

***Table 2** Eigenvalue, canoical correlation, Wilks' lambda, χ^2 test level and level of significance for discriminant function*

Function	Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	df	Sig*
1	1,351	0,758	0,425	20,09	7	0,005

* degree of freedom α=0,05

Source: the authors of the paper

For purpose of further understanding of the observed phenomena, we investigated the contribution of each independent variable in the discriminant model. As presented in the table below (Table 3.) the dimension *transparency of information* has had the highest standardized discriminant coefficient (0,782), afterwords the dimension *role and responsibility of supervisory board* (0,739). Based on this we can conclude that these tow variables have the higherst relative discriminant power to differentiate corporations based on their business success. The least influence on differentation of corporations into two groups have dimensions *rights of shareholders* (-0,014) and *audit nad internal control system* (-0,053). The main difference between corporations with better organizational performance lies in better management practices based on implementation of corporate governance principles. These results indicate that corporate governance and implementation of corporate governance principles are important factor in explaning business success of companies on the stock market in B&H.

***Table 3** Standardized discriminant coefficients*

Dimensions in the model	Standardized Coefficients
Dedication to corporate governance principles	0,071
Equal treatment of shareholders	0,116
Rights of shareholders	-0,014
Corporate social responsibility	-0,175
Transparency of information	0,782
Role and responsibility of supervisory board	0,739
Audit and internal control system	-0,053

Source: the authors of the paper

Table 4 presents the results of classification (confusion matrix of classification) which indicates the possibility of prediction of belonging to one of the groups through the discriminant model. The *hit ratio* within the original data set (without cross-validation) is 89,7%. These results indicate that it can be relatively successfully predicted with the given discriminant model whether a corporation belongs to the group o successful companies or the group of those less successful. With this model we were able to successfully predict 75,9% corporations with cross-validation.

Table 4 *Results of classification(classification matrix)*

		Predicted Group Membership					
		Less successful companies		Successful companies		Total	
		n	%	n	%	n	%
Original*	Less successful companies	10	76,9	3	23,1	13	100,0
	Successful companies	0	0,0	16	100,0	16	100,0
Cross-validated**	Less successful companies	7	53,8	6	46,2	13	100,0
	Successful companies	1	6,3	15	93,8	16	100,0

*hit ratio - **89,7%** of original grouped cases correctly classified
** hit ratio - **75,9%** of cross-validated grouped cases correctly classified

Source: the authors of the paper

Based on the results presented above we can conclude that the suggested methodology can be reliably used to determine companies´ success based on the level of implementation of corporate governance principles.

4. Conclusion

This article presents research results which indicate that application of corporate governance principles are important factor in success of companies in Bosnia and Herzegovina. Accordingly, we confirmed research hypothesis we formulated for the purpose of this research "i*mplementation of corporate governance principles has positive impact on company´s business success"* and scientifically confirmed that the better the quality of corporate governance the more successful a company will be. Based on the research results we could find an answer to our research question and establish that every other company shows higher levels of implementation of corporate governance principles. Furthermore, we developed a model which can predict whether a company will be among successful companies based on their dedication to implementation of corporate governance principles. Limitations of this study are related to the sample size and unavailability of some data. Importance of corporate governance in today´s dynamic environment is undeniable and it is crucial for achieving competitive advantage and long-term growth. Companies who disclose their business information, information about board members, financial statements and other relevant information to all shareholders and the public are more attractive to potential investors, ***since companies with better corporate governance facilitate higher returns for shareholders. It is*** crucial for our economy to accelerate corporate governance reforms for sustainable economic growth. Therefore, future research should be designed for the purpose of advancements in corporate government research in Bosnia and Herzegovina, the studies should monitor corporate governance practices in companies in Bosnia and Herzegovina over time in order to monitor progress and compare it to countries of interest.

REFERENCES

Corporate governance, Manual for companies in B&H, International Finance Corporation 2121 Pennsylvania Ave. NW, Washington, DC 20433, United States of America, 2009.

Hatunić E., Kuč H (2009): ***Corporate governance and management***, Basic manual for managers, Off-set, Tuzla.

Korent D., Đunđek I., Klačmer Čalopa M. (2014): ***Corporate governance practices and firm performance measured by Croatian corporate Governance Index (CCGI)***, Economic Research, Vol.27, Issue 1.

Kurtić A. (2011): ***Business system management* : (system, process, functions)**, CNS, Sarajevo,

McGee R.W. (2008): ***Corporate governance in Asia: A comparative study,*** Florida International University, College of Business Administration, USA.
Nam S.W., Nam I.C. (2004): ***Corporate governance in Asia: Recent evidence from Indonesia, Republic of Korea, Malaysia and Thailand,*** Asian Development Bank Institute.
Nestor S., Jesover F. (2000): ***OECD Principles of Corporate governance on shareholder rights and equitable treatment: their relevance to the Russian Federation***, Moscow.
OECD Principles of Corporate Governance, Meeting of the OECD Council at Ministerial Level, 1999.
Rahim M.M. (2013): ***Legal Regulation of Corporate Social Responsibility, CSR, Sustainability, Ethics & Governance,*** DOI 10.1007/978-3-642-40400-9_2, Springer-Verlag, Berlin.

Dr. sc. Siniša Franjić, dipl. iur.
sinisa_franjic@net.hr

ENERGY POVERTY IN CROATIA

ENERGETSKO SIROMAŠTVO U HRVATSKOJ

ABSTRACT

Energy is the main strategic resource in developed countries. It has a huge impact on the quality of daily life and every day more and more benefits. It also has a huge impact on the entire social infrastructure and thus is inextricably linked to the growth and development of the economy. The Croatian. However, the economic crisis took its toll, which means that many people have lost their jobs but their opportunities for energy consumption significantly reduced. This paper seeks to clarify some of the most important relationships that occur within the energy sector since Croatia is rich in energy but, unfortunately, the energy poor because the consequences of the economic crisis, people are not able to pay for energy is becoming more expensive.Energy richness is a proof of modern trends in production, which means that there is also the energy that is produced, for example, through the wind power system and through biological systems. Given the financial situation in which they are, people are not currently able to pay any extra costs or energy. The aim of this paper is to greet new energy production systems that can only bring good humanity to the whole, but also want to warn how people difficult to live and, because of the crisis, they are not able to bearing additional costs.

Keywords: *Energy, energetics, energy sector, energy poverty.*

SAŽETAK

Energija predstavlja glavni strateški resurs u razvijenim državama. Ima veliki utjecaj na kvalitetu svakodnevnog života i svakim se danom sve više koristi. Ima i golemi utjecaj na cjelokupnu društvenu infrastrukturu i na taj način je nerazdvojivo povezana s rastom i razvojem gospodarstva. Energetski sektor je jedan od najvažnijih segmenata svakoga nacionalnog gospodarstva pa tako i hrvatskog. Međutim, ekonomska kriza je učinila svoje što znači da su mnogi ljudi ostali bez posla pa su im mogućnosti za potrošnju energije znatno smanjene. Ovaj rad pokušava razjasniti neke od najvažnijih odnosa koji se javljaju unutar energetskog sektora jer je Republika Hrvatska bogata energijom ali, na žalost, energetski siromašna zbog toga što zbog posljedica ekonomske krize ljudi nisu u mogućnosti plaćati energiju koja postaje sve skuplja. Bogatstvo energijom je dokaz da se prate moderni trendovi u proizvodnji što znači da se u primjeni nalazi i energija koja je proizvedena, na primjer, putem sustava vjetroelektrana i putem bioloških sustava. S obzirom na financijsku situaciju u kojoj se nalaze, ljudi trenutačno nisu u mogućnosti plaćati nikakve dodatne troškove pa ni one za energiju. Ovaj rad ima za cilj pozdraviti nove sustave za proizvodnju energije koji mogu donijeti samo dobro svekolikom čovječanstvu, ali želi i upozoriti na činjenicu da ljudi teško žive te da zbog krize nisu u mogućnosti snositi dodatne troškove.

Ključne riječi: *energija, energetika, energetski sektor, energetsko siromaštvo.*

1. Economy

There are many definitions of the term "economy", but the two most are famous: first from classics of economic thought of Adam Smith who in his book "Wealth of Nations" concluded that individuals are guided by "invisible hand" of the market through the realization of their own, and realize the interests of society as a whole. "Wealth of Nations" is considered a classic of world economic thought. The second is that the American Nobel laureate Paul Anthony Samuelson, who says that it is the science that studies how societies use sparingly resources to produce goods and services to better meet their needs. This means that the economy is engaged in in-depth analysis of economic laws and phenomena in social production from the standpoint of analysis of the relations of production and rational use of limited resources and unlimited human needs. The analysis is based on a micro and macro level. Samuelson's "Economics" is considered a major work of modern economic thought.

Basic economic divisions based on macroeconomics and microeconomics. Macroeconomics examines the functioning of the economy as well as social factors as a whole, which means that is engaged in production, unemployment, inflation, money supply, and research the economic success or failure. Microeconomics examines individual components - production sectors, companies and consumption, which means that he studied the advantages and disadvantages of market mechanisms.

This is important to know because the economic science has mechanisms by means of which can determine the definition of poverty and wealth in different situations. Can poverty and wealth considered through the prism of the energy sector? Yes, because within it there is this division.

2. Wealth

Wealth is the totality of goods and rights owned by an individual or company, and serves to guarantee prosperity and power to dispose of goods and services [1]. As the sum of assets in all its forms, the wealth is expressed in money and may be transferred to another person. Wealth is the basis of creation and obtaining of income, which is used to cover the consumer needs as well as for further growth by converting the unspent portion of income (savings) in new wealth. Creates his own work and successful business, but can grow and transfer or control of other people's wealth (inheritance, downloading, etc.). The wealth of inputs and invisible assets (business reputation, business and professional relationships, skills and knowledge) and property rights (intellectual property, claims, etc.).

Wealth in society is usually very unevenly distributed among its members, so that only a small number of members of the society has great wealth, while the majority of the population owns the property allows for continuous satisfaction of consumer needs, and for some less. The holders of wealth often occur in the social function of entrepreneurs and organizers of business activity, using the assets and the working abilities of other people. The distribution of wealth is of great significance for the overall distribution of social power and social relations.

3. Poverty

Poverty is a condition in which individuals or households do not have the financial resources to meet their basic needs or to participate in a socially acceptable standard of living [1]. Poverty can be defined in several ways. Absolute poverty refers to situations where individuals are unable to meet the basic needs necessary for the maintenance of health and fitness for work, ie. for physical survival (food, clothing, housing, movement). It is assumed that in all societies for survival require the same amount of goods and is the absolute poverty the same in different societies and is only changed depending on changes in the cost of living. Absolute poverty is often associated with extreme forms of poverty (hunger, homelessness, malnutrition). Relative poverty is defined in relation to the standard of living in a particular society and time period considered acceptable. The changing perception of a minimum acceptable standard of living is changed and the definition of poverty; some members of the community are poor only compared with other members of the community. What was once considered a luxury, can eventually become an intrinsic part of decent living standards (hot water, washing machines, televisions, cars, refrigerators, education, etc.). Relative poverty often means a less severe form of poverty, ie. standard sufficient to meet their basic needs, but still significantly lower than that of the majority of citizens in society. Inequalities in wealth and income are taken as an indicator of relative poverty. The concept of absolute poverty more used in developed countries and developing countries, which have a low level of living standards and the concept of relative poverty in developed countries. The notion of subjective poverty involves self-assessment; citizens themselves assess their own well-being, rather than the experts. In the subjective perception of poverty affecting individual desires and experiences former life. It often happens that some people consider themselves poor, even though the objective criteria that do not, and vice versa, that some do not consider themselves poor, even though the objective criteria belong to the group of the poor. In the seventies of XX. century, there was a new concept of poverty, which is associated with problems of financial uncertainty and changes in family forms (unsafe workplace, unemployment, indebtedness, inability to repay the loan, delays in paying utility bills, etc.). New poverty means a situation in which families or households are not able to maintain the previous level of living standards, while moving from a relatively safe living in uncertainty with which it had not previously encountered. To determine the number of the poor in a society used the so-called poverty line (level of income/consumption below which individuals or households are considered poor). Different countries use different poverty lines (basket of goods and services, statistical, subjective, business lines, etc.). Poverty is present in all societies regardless of their level of development. In modern (industrialized) societies, however, poverty is no longer a problem of the majority, but a minority. In contrast, in the underdeveloped parts of the world is much bigger number of those living in poverty and faced with its extreme forms. According to World Bank estimates, in early XXI. st. in the world is 1.1 billion. people living with less than $ 1 a day. The causes of poverty can lie in natural (climate, barren land, desertification and reduction of arable land, lack of drinking water, drought, floods, depletion of natural resources, etc.), Economic (unemployment, lack of employment, low wages), political, social, cultural and individual factors (disability, mental retardation, illness, etc.). Poverty is often perceived as a "vicious circle" of which is difficult to get out, and what the consequences of poverty from generation to generation. The most important measures in the fight against poverty is economic growth, expansion of employment opportunities, income support through social transfers and the development of human capital (investment in education and health).

As for determining the relative poverty or the national poverty threshold, difficulty was the fact that this limit has not been previously defined [2]. Researchers have tried to determine both what they estimated the total expenditure (including non-food products) of Croatian households, with the family, after payment of essential non-food costs, can only meet their minimum nutritional needs. These are: food (and varied diet that includes meat, milk, fruits and vegetables), clothing, housing, utilities (electricity, water, heating, telephone), basic appliances (refrigerator, gas or wood, TV , heaters), equipment for the school and the book, expenses for health care.

How poverty looks at concrete examples? Osijek daily newspaper "Glas Slavonije" on that topic in December 2016 published an article in which he made several alarming statistics [3]. The data are worrisome because they can be seen, with how little money people manage to survive due to the cost of living. In EU Member States about 5.5 million people living on less than 1.90 euros a day, and 8.6 million of them with the available amount of 3.10 euros per day. Therefore, the EU average was among 1.1 percent and 1.7 percent.

In Croatia, with less than 1.90 euros a day lived 0.9 percent of the population and 1.8 percent of those with less than 3.10 euros. Given that the only relevant official data on the number of

inhabitants are from the census of 2011, this means that less than 1.9 euros or 14.3 kuna living in Croatia live 38,560 people, and less than 3.10 euros or 23.3 kuna per day has 77,130 citizens. In order to define who is the one who lives in extreme poverty has been applied methodology World Bank poverty line is determined to 1.90 euros per day for the poorer countries, and 3.10 euros for those with average incomes.
At the EU level, women are slightly poorer than men, although this difference varies depending on the country, nearly 52 million adult women and 44 million adult men living at risk of poverty, 40 percent of poor women are employed, while for men the reverse - 40 percent is inactive, so that poverty is not tied exclusively to economic inactivity.

4. Energy

The word "energy" is derived from Greek words "energos" meaning activity, and describes a system in which it performs some operation. There are several natural phenomena that can be explained with the help of energy. These are thermal energy, kinetic energy, nuclear energy, electricity, potential energy, gravity, elasticity, electromagnetism and mass.
Energy has a big impact on the quality of everyday life and, as such, has become the main strategic resource developed countries. Because of the modern lifestyle, the use of energy is becoming increasingly greater.
Energy affects many industries, making the development of energy becomes inextricably linked to the growth and development of the economy [4]. For the purpose of good energy management tends to a fuel consumption of equal benefits. Otherwise, been late energy development becomes a limiting factor of economic growth because non-supply energy causing major disruption and significant production losses. According to the importance of the production of energy put into the same category of essential activities such as production of food and raw materials and ensuring the necessary amount of water. The lag in these forms of production limits the overall economic growth and development of a country.

5. Energetics

Energetics is a multidisciplinary science that deals with energy resources, conversion of different forms of energy in the required form, power generation, transmission and distribution of energy, rational use of its actions and the consequences of the production and utilization of energy on the environment [1].
Energy policy and energy sector directly and indirectly contribute to economic development of the Croatian its development potentials [5]. Energy strategy that shape and determine how the development potential of the energy sector, and energy policy should be harmonized with the economic/strategy development, and not make them and partially apply. It is essential in the making, and later the implementation of the strategy/policy, energy development potential and economic observe and analyze, not just energy. In the development potential of the energy sector/policy is often not analyzed the economic effects but their realization realize questionable economic results.

6. Energy sector

The energy sector undoubtedly has a very important role in the economy of each country as directly through the newly created value, and indirectly through its impact on the price of energy affects the economic activity [6]. Over the past 20 years the energy sector of most countries, developed and developing ones, has experienced intense changes that are the result of globalization, technological progress, raising awareness about the importance of climate and environment and intention to liberalize the energy market. So undertaken various reforms including the creation of a regulatory

framework, restructuring, market opening and privatization in order to develop and improve the competitiveness of the energy sector for the purpose of stimulating economic growth.
The energy sector is the infrastructure sector that systematically examines the benefits and commercial products and supplies all types of consumers all available types of energy at economically reasonable cost. Energy is set as the most important infrastructure sector, due to a high coefficient of correlation exists between the energy and the level of development of a country. The Republic of Croatia is organized through two large systems: INA and HEP. In the system of INA exploration and production of oil and gas, refining, organic and inorganic petrochemical production, trade ie the supply of current and gas fuels and other petrochemical products. In the system of HEP are electricity production in hydro power plants and thermal power plants, transmission and system management and distribution of electricity to final consumers. The energy sector in Croatia can be divided into six components: Oil and oil products, natural gas, electricity, thermal energy, coal and renewable energy sources.
When considering issues related to the energy sector, we should not neglect the European energy policy. European Energy Policy (Energy Policy for Europe - EPE) was launched by the decision of the Heads of Member States of the European Union in 2007 [7]. The European energy policy is aimed at achieving three objectives: increasing security of supply, ensuring the competitiveness of European economies and the availability of energy and promote environmental sustainability and combat climate change. This effectively allows energy supply, integration of energy markets in the European Union, ensuring compliance with the energy policy objectives of sustainable development by rational use of energy and development of renewable energy sources and the promotion of research and technological development in the energy sector. European energy policy includes the use of coal, oil, gas, electricity, new and renewable energy sources and nuclear energy and demand management for various forms of energy.

7. Energy efficiency

As the biggest energy costs related to heating and domestic hot water production, so the methods and energy saving measures mostly related to that part of the spending. By investing in affordable energy efficiency measures can achieve significant savings in energy costs. Such investments are paying off quickly, and after their repayments remain permanent savings. In addition to being favorable, life in energy-efficient household is more comfortable for the whole family.
The concept of energy efficiency is a rational use of energy, through the reduction of energy consumption [8]. Being energy efficient means to use less power (energy) for the same work - function (heating or cooling, lighting, manufacturing a variety of products, drive vehicles, and others.). Energy efficiency today is the world's recognized as the cheapest and fastest way to achieve the objectives of sustainable development. Improvements in energy efficiency contribute to the reduction of harmful emissions into the environment, more industrial competitiveness, create jobs and increase security of energy supply. This is why energy efficiency is the backbone of the unique energy policy of the European Union (EU), which aims to reduce total energy consumption by 20 percent by 2020 compared to the baseline projection.

8. Energy poverty

Energy poverty as the term is not clearly defined either in Croatia or on the European level and there is a need for additional research and defining the indicators at the national level [9]. The definition that is commonly used in the United Kingdom, Australia and New Zealand says that if a household spends more than 10% of their income on energy, it is energy-poor. If we accept this definition and the application of the different countries, then the data can be measurable and comparable between them. As the level of the EU this problem is not prescribed as a definition, or there are no criteria

which would equally regulate this issue, established a working group that was supposed to make a final decision in December 2013, and will subsequently regulate the EU Directive.
EU Directive 2009/72/EC and 2009/73/EC require Member States 'affected and which have not yet done' to ensure the necessary energy supply for vulnerable populations "in order to reduce the number of people" who are in this situation. Governments of EU Member States are required to formulate the 'appropriate measures' to combat energy poverty, and encourages Member States to replace government subsidies (to help pay the bills for energy consumption) incentives for improving the energy efficiency of residential buildings inhabited by consumers are capable of energy poverty.
One way of calculating rates of energy poverty is calculated using indicators of material deprivation (delay in payment of direction, lack of heating in the cold months, the high cost of housing relative to income and inadequate insulation). Taking into account these indicators, the rate of energy poverty in the EU ranges between 10 and 30%, while in Croatia is about 35%. The rate of material deprivation, which shows the percentage of people living in households that can not afford three of the ten items of material deprivation, in 2011 was 34%, which roughly corresponds to the rate of energy poverty.
Many EU Member States have established a special fund for energy-poor, regardless of whether receive energy poor households social assistance or not. In Croatia, the energy poor households in most cases are not welfare recipients, therefore, be well designed and implemented new mechanisms for state aid. First of all, requires the development of appropriate criteria for the definition of energy poverty. Based on art. 39 of the Energy Act is planned to adopt the Regulation on the criteria for acquiring the status of the threatened buyers and the Regulation on the criteria for acquiring the status of a protected buyer and protection measures in order to provide a reliable supply of threatened buyers within six months after the enactment of the Act. Such regulation should be incorporated into the provisions of the new Law on social care. In addition, in February 2013 adopted the Social Action Plan (SAP) of understanding the social aspects of the Energy Community, which was predicted in detail the activities in the process of ensuring the protection of economically threatened buyers, in line with sustainable and open energy market. Also, SAP is assumed that the above Regulation to be made 11 months after the adoption of the SAP.
Energy poverty is one of the key problems of today. With the continuous rise in energy prices more and more households are facing problems in meeting their energy bills and is being forced to live in inadequate conditions of energy and reduce the living space in winter.
Energy poverty is manifested either through complete lack of access to modern forms of energy (electricity) or as an inability to settle the cost of energy needed to ensure the health, social and culturally acceptable housing conditions [10]. In a world of over a billion people still lack access to electricity, and nearly three billion depend on wood fuel and other forms of biomass for cooking and heating.
On the website of the Croatian Government, one can read the following: Social policy is one of the key public policies affecting the sustainable development of society. Its main task is to eliminate the causes of poverty, homelessness and hunger and ensuring, through its interventions, basic civil equality for all, regardless of special needs or any form of aggravated participation in society. In accordance with the political and value orientation, conduct social policy as one of the most important political goals that the citizens should be returned to Social Security, a society built on the principles of solidarity, social cohesion and social justice. Social policy is one of the key public policies affecting the sustainable development of society. Thus defined social policy necessarily closely related to the development and economic growth.
This means that the goals of the Croatian Government's human and as such custom grassroots population. Unfortunately, in the Republic of Croatia is called the widest layers of the population very hard to live. It's a fact of which there is no escape, and the Croatian Government to do everything in order enabled its citizens a decent living.

9. Threatened buyer

Under the Energy Act [11], threatened buyer is defined as a buyer of energy from household category, who because of their social status and/or health status has the right to deliver energy to specific conditions. Article 39 of the Energy Act still provides that final buyers of energy from networked systems in the event of crisis situations, for security reasons, the potential threat to life and work and social reasons may have special protection (protected and threatened buyer). The status of the affected buyer can have the ultimate buyer from the household category, which is supplied through a mandatory public service in the framework of universal service and / or mandatory public service of gas supply and / or service of heat supply tariff buyers if such domestic buyer living person:
- Where the body responsible for social issues to determine the status of endangered social status and the need for this form of social assistance,
- Which is determined by a degree of disability, persons with disabilities or persons with poor health which may occur threats to life or health due to restrictions or suspension of energy supply.

The end buyers in the category households eligible poverty and landfill are entitled to social minimum energy consumption certain conditions of supply in the flat/house in which they live, number of families, the state of health of family members and economic status of the family.
From Article 39 of the Energy Act it is clear that the legislator predicted and various difficulties that can hit the Croatian citizens, but is shown to have an understanding of these conditions trying planned measures to facilitate the life of citizens. The aim is to provide assistance to citizens who are able to socially vulnerable people.

10. Social care

To all who can not meet the basic necessities of life provides the assistance through the social care system. The social care system is based on the principle of subsidiarity, which implies the responsibility of individuals and families for their own social security and the role of the state is there to help, with the aim of preventing, alleviating and eliminating social risks. Users, rights and conditions for their implementation, as well as other issues of importance to this activity, defined by the Law on social care [12].
Social care generate two categories of users. The first category of the poor who have no personal income or whose income is below the prescribed threshold, means are insufficient to meet their basic needs. The second category are those who receive social care in order to meet specific needs, mainly due to disability, age, mental illness, addiction and others. For this group includes children and young people without parental care, children and young people with behavioral problems, and victims of domestic violence and human trafficking.
The right to compensation for the threatened buyers energy is recognized single person or household that meets the criteria for acquiring the status of the threatened buyers laid down regulations governing the energy sector. It should be noted that the legal basis of the right to compensation is in Article 94 of the Law on the social care, and on the status of the person who will be recognized right to compensation, decided by the Centre for social care.
Here we should point out that Croatia is facing a high unemployment rate, one of the highest at-risk-of poverty in the member countries of the EU, a very low level of protection of workers' rights, the huge borrowing of citizens, leading to subjective feelings of insecurity, fear for the existence of individuals and family, resignation and deep discontent people [13]. In Article 3 of the Croatian Constitution as one of "the highest values of the constitutional order" were singled out social justice, equality and respect for human rights. When you look at these values that are committed Croatian state, the question arises whether in today's context, they called into question and to what extent have compromised some fundamental human rights are guaranteed by the Constitution, such as, for

example, the right to work. From the principles of social justice arising principles of humanity, equality, solidarity and universality. On the other hand, the neo-liberal economic model of their philosophy is based primarily and exclusively on maximizing profit and the accumulation of wealth, regardless of the consequences for the individual, society and the environment.

11. Conclusion

This paper was created to connect the energy and poverty as active factors of each society. Their conceptual definition tells how participate in theory and practice. As is evident from the work, it is an unavoidable factors, each in his own way, forming today's modern Croatian society. Croatian citizens are an essential part of these stories because they are involved in their implementation and as energy buyers who can not pay as those who can not pay. Those who can not pay, it is clear that they are not able to because they do not have the sufficient financial resources that would allow them to. Any ruling structure has developed mechanisms which can help those who can not pay for energy and a number of Croatian citizens, as a rule, benefits and mechanisms. It should be said that even a cursory glance at the energy balance can be said that all types of energy available in the Republic of Croatia. However, it is not enough for the normal functioning of society as Croatian citizens now live in poverty as indicated by relevant statistical data. Ideally enable people to normal living from their work because it is derived from all known economic laws. The Croatian Constitution guarantees the right to work, and this is one of the fundamental human rights.

REFERENCES

www.enciklopedija.hr, accessed 10. 01. 2018.

Malenica, Zoran: ***Siromaštvo u Hrvatskoj (1990-2010)***, Politička misao, 3/2011., pp. 65. - 81.

S manje od 15 kuna dnevno živi više od 38 tisuća građana, Glas Slavonije, Article published 12. 12. 2016., accessed 10. 01. 2018.

Jakovac, Pavle; Vlahinić Lenz, Nela: ***Energija i ekonomija u Republici Hrvatskoj - Makrekonomski učinci proizvodnje i potrošnje električne energije***, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2016., pp. 54.

Gelo, Tomislav: ***Razvojni potencijali hrvatskoga energetskog sektora*** in "Zbornik radova Razvojni potencijali hrvatskog gospodarstva" (urednici: akademik Gordan Družić, prof. dr. sc. Ivo Družić), Hrvatska akademija znanosti i umjetnosti, Ekonomski fakultet Sveučilišta u Zagrebu, Zagreb, 2014., pp. 201. - 245.

Vlahinić, Nela: ***Uloga energetskog sektora u ekonomskom rastu Republike Hrvatske: Izazovi i perspektive*** u "Zbornik radova Konkurentnost, ekonomski rast i blagostanje" (urednici: Prof.dr.sc. Vladimir Cini, prof.dr.sc. Đula Borozan, prof.dr.sc. Ivan Ferenčak), Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek, 2014., pp. 88. - 104.

Šimundić, Slavko; Franjić, Siniša: ***Pravna regulativa u elektrotehnici i računarstvu***, Sveučilište Josipa Jurja Strossmayera u Osijeku – Elektrotehnički fakultet u Osijeku, Osijek, 2015., pp. 71.

Boromisa, Ana-Maria; Bukarica, Vesna; Pavičić Kaselj, Ana; Landeka, Josipa; Robić, Slavica: ***Financiranje provedbe mjera energetske učinkovitosti***, CENEP, Zagreb, 2011., pp. 1.

http://unlocking-the-future.com.hr, accessed 10. 01. 2018.

Robić, Slavica: ***Energetsko siromaštvo u Hrvatskoj – Rezultati terenskog istraživanja provedenog u Sisačko-moslavačkoj županiji***, DOOR, Zagreb, 2016., pp. 1.

Zakon o energiji – NN 120/2012.; 14/2014.; 95/2015.; 102/2015.

Zakon o socijalnoj skrbi – NN 157/2013.; 152/2014.; 99/2015.; 52/2016.; 16/2017.; 130/2017.

Družić Ljubotina, Olja: ***Siromaštvo kao izazov za socijalni rad u kontekstu ekonomske krize u Hrvatskoj***, Ljetopis socijalnog rada, 2013., 20 (1), Zagreb, pp. 187. – 204.

Martina Harc, PhD
Croatian Academy of Sciences and Arts
Institute for Scientific Research and Artistic Work in Osijek
F.Kuhača 29/I, 3100 Osijek
Phone: +38531214928, +38531207407
E-mail: harcm@hazu.hr

Martina Briš Alić, PhD
J.J. Strossmayer University of Osijek
Faculty of Economics in Osijek,
Gajev trg 7, 31000 Osijek
E-mail: mbris@efos.hr

THE ROLE OF ECO-INNOVATION AND TRANSITION TOWARDS A GREEN ECONOMY IN CROATIA

ULOGA EKO-INOVACIJA I PUT PREMA ZELENOJ EKONOMIJI U HRVATSKOJ

ABSTRACT

Eco-innovation plays a crucial role in transforming the traditional linear model of production and consumption into a new circular model characterised by circular resource management. Environmental challenges and resource constraints have led to a demand for new technologies, solutions and products. The EU's Eco-Innovation Observatory defines eco-innovation as any new significantly improved products (goods or services) process, organisational change or marketing solution that reduces the use of natural resources (including materials, energy, water and land) and decreases the release of harmful substances across product's full lifecycle. Argued by European Commission, our economies have developed a linear model based on "take-make-consume-dispose" pattern of growth. Moving toward a more circular economy that uses a "take-make-use-take-make…" pattern of growth is essential to deliver the resource efficient economy established under the Europe 2020 Strategy for smart, sustainable and inclusive growth. Although the need for eco-innovation is widely recognised within EU, eco-innovation performance indicates high variations across EU Member States. European Eco-Innovation Scoreboard groups countries into eco-innovation leaders, average eco-innovation performers and countries catching up in eco-innovation. Countries catching up in eco-innovations are mostly new Member States, without exception of Croatia. In order to evaluate the strength and weaknesses of eco-innovation performance in Croatia in period 2013 - 2016, 16 indicators are interpreted by five sub-indices (eco-innovation inputs, eco-innovation activities, eco-innovation outputs, resource efficiency and socio-economic outcomes) in the Eco-innovation Scoreboard forming aggregated Eco-innovation index. Recycling, as the most prominent and adopted pillar of circular economy is measured by recycling rate.Croatia's environmental and socio-economic modest results indicate that eco-innovation development and transition into a new circular economy model in Croatia is at early stage. Due to a long period of economic recession, a general lack of adequate policies and competences, an inadequate waste management, a lack of regulatory framework and mechanisms for stimulating eco innovation and new technologies, all indicates Croatia's lag in eco-innovation and in its transition towards a green economy.

***Key words**: eco-innovation, green economy, circular economy, recycling, Eco-innovation index.*

SAŽETAK

Eko-inovacije igraju ključnu ulogu u transformaciji tradicionalnog linearnog modela proizvodnje i potrošnje u novi kružni model karakterističan kod kružnogupravljanja resursima. Ekološki izazovi i ograničeni resursi doveli su do potrebe za novim tehnologijama, rješenjima i proizvodima.Eco-Innovation Observatorydefinira eko-inovacije kao potpuno nove, znatno poboljšane procesne proizvode (robe ili usluge), organizacijske promjene ili marketinška rješenja koja smanjuje korištenje prirodnih resursa (uključujući materijale, energiju, vodu i zemlju) te smanjuju otpuštanje štetnih tvari tijekom čitavog životnog ciklusa proizvoda. Europska komisija je zaključila da su naša gospodarstva razvila linearni model temeljen na uzorku rasta "take-make-consum-dispose". Okretanje prema kružnomgospodarstvu koje koristi "take-make-use-take-make ..." uzorak rasta,ključan je za postizanje resursno učinkovitog gospodarstva, temeljenog na Europe 2020 strategiji za pametan, održiv i inkluzivni rast. Iako je potreba za eko-inovacijama široko prepoznata unutar EU-e, eko-inovacijski rezultati ukazuju na velike razlike među državama članicama EU-e. European Eco-Innovation Scoreboard grupira zemlje članice EU u vodeće eko-inovativne zemlje, prosječne eko-inovativne zemlje i zemlje koje zaostaju u eko-inovacijama. Zemlje koje zaostaju ili kaskaju u eko-inovacijama uglavnom su nove države članice EU, kao što je i Hrvatska. Kako bi se procijenile snage i slabosti eko-inovacijskih učinaka u Hrvatskoj u razdoblju 2013. - 2016. godine, analizirano je 16 indikatora koji opisuju pet tematskih područja (eko-inovacijski inputi, eko-inovacijske aktivnosti, eko-inovativni rezultati, učinkovitost resursa i socio-ekonomski rezultati) na eko-inovacijskoj tablici s rezultatima koji čine agregirani eko-inovacijskiindeks. Nadalje, recikliranje, kao najistaknutiji stup kružnog gospodarstva mjeren je stopom recikliranja. Zaključno, skromni rezultati u području ekologije te socio-ekonomskih pokazatelja, ukazuju da je razvoj eko-inovacija i prijelaz u novi kružni ekonomski model rasta u Hrvatskoj još u početnoj fazi. Zbog dugog razdoblja gospodarske recesije, općeg nedostatka adekvatnih politika i kompetencija, neadekvatnog gospodarenja otpadom, nedostatka regulatornog okvira i mehanizama za poticanje eko-inovacija i novih tehnologija,Hrvatska zaostaje u eko-inovacijama i tranziciji prema zelenoj ekonomiji.

***Ključne riječi**: eko-inovacije, zelena ekonomija, cirkularna ekonomija, recikliranje, Eco-innovation index.*

1. Introduction

According to European Commission, eco-innovation and green technologies are key to Europe's future. The 'green economy' has been emerged as a priority in all major European Union strategies and policy debates in recent years. Global economic crisis, soaring commodity prices and growing awareness of consumer's influence on the environment have pushed the concept of 'green economy' into mainstream of EU strategies (EEA 2013:5). *Europe 2020 strategy for smart, sustainable and inclusive growth* (2010) fosters, among others, resource efficient, greener and competitive economy through three mutually reinforced priorities and focuses on boosting resource productivity, efficiency and competitiveness in order to protect environment, accelerating the path of innovative products toward markets. Built under the Europe 2020 Flagship Initiatives, the "*Resource Efficient Europe" Flagship and its roadmap* is an essential Initiative for the transition towards a green economy. This flagship initiative aims to create framework for policies in order to create resource-efficient and low-carbon economy (COM(2011)21:3). The transition to a green and low-carbon economy requires significant innovation, from small incremental changes to radical technological breakthroughs by developing knowledge base and creating new green jobs (COM(2011)571:9). The *EU's 7th Environment Action Programme* (7EAP) states that "living well within the limits of the

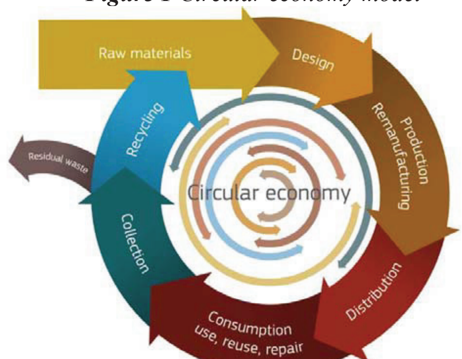
planet", includes the need to "turn the Union into a resource-efficient, green, and competitive low-carbon economy". Hence, programme's three keys objectives, to protect, conserve and enhance the EU's natural capital, to turn the EU into a resource-efficient, green and competitive low-carbon economy and to safeguard the EU's citizens from environment-related pressures and risks in order to pursue health and well-being, mutually intersects. These objectives reflect a 'green economy' policy concept, with 'green growth' and 'sustainable development' related concepts. In order to foster green economy by resource efficiency gains, economic growth need to be decoupled from resource and energy use, and from related environmental impacts (EEA 2016a:31).
Europe's green industries are already showing progress. The environment industry sector, which produces goods and services that reduce environmental degradation and maintain natural resources, grew by more than 50% between 2000 and 2011 (EEA 2015 online). In 2012 is estimate that more than 3 million people already worked for eco-industries in the EU, which represented around 1% of the total workforce, and that the eco-industries had a turnover of around EUR 550 million. The global trend is a growing number of 'green jobs' improving that resource efficiency leads to job creation (EC 2012).
This paper discusses the importance of transition from current economy model towards a green economy in Croatia. After introduction, Section 2 provides an overview of the definitions of green economy and eco-innovation and reviews of enabling factors of green economy. Moreover, discusses the main features of circular economy and stresses its importance. Section 3 outlines the eco-innovation and related performances in Croatia. Finally, the concluding remarks are presented in Section 4.

2. Theoretical background

Broadlydispersed definitions of green economy followed by relevant international institutions are summarized in three green economy objectives. First and main green economy objective refers on improving resource-use efficiency by efficient use of energy, water and other materials. Second objective refers to ensuring ecosystem resilience through protection of natural environment, its ecosystem's structures and flows of ecosystem services. In order to promote wellbeing in an inclusive manner by fair burden sharing through societies, third scope of green economy involve enhancing social equity (EEA 2014:11).The European Environment Agency (EEA) defines a green economy as one in which policies and innovations enable society to use resources efficiently, enhancing human well-being in an inclusive manner, while maintaining the natural systems that sustain us (EEA, 2013).United Nations Environment Programme (UNEP) defines a green economy as one that results in "improved human well-being andsocial equity, while significantly reducing environmental risk and ecological scarcities" UNEP (2010). Furthermore, for OECD (2011) green growth "means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. Moreover, it must catalyse investment and innovation which will underpin sustained growth and give rise to new economic opportunities".According to Eco-innovation observatory (EIO) in order to foster the resource-efficient green economy and sustainable growth, economic growth must be decoupled from primary resource consumption by finding the growth opportunities in resource efficiency, recycling, re-use and other new business models. Within EU, this requires reducing total consumption levels of primary materials, land, water and energy(EIO 2013:6). The shift to a resource-efficient green economy is a process in which eco-innovation play a crucial role.Therefore, the green economy presents the framework for change in which eco-innovation is a key tool towards change (EIO 2013:6).In order to achieve environmental objectives through innovation, European Commission launched in 2011 Eco-innovation Action Plan (EcoAP) (COM(2011)899), an extensive set of initiatives for the market uptake of eco-innovation. Different enabling factors as green or eco-innovation, green knowledge, fiscal reforms or financial resources supports transformation to a resource-efficient green economy. ***Green or eco innovation*** is considered as a primary enabling factor. Eco-innovation is defined as any new significantly improved products (goods or services), process, organisational change or marketing solution that reduces the use of natural resources (including materials, energy, water and land) and decreases the release of harmful substances across life-cycle (EIO 2010:10). According to European Commission, eco-innovation refers to all forms of innovation – technological and non-technological, new products and services and new business practices – that create business opportunities and benefit the environment by preventing or reducing their impact, or by optimising the use of resources. Eco-innovation takes the full life-cycle of products (goods or services) into account, focusing on inventing new products and delivering new services, but also on minimising the use of the natural resources, reducing environmental impacts in the way products are designed, produced, used, reused and recycled (EIO, CfSD, 2016:7). New concepts such as sharing, leasing and remanufacturing also contribute to eco-innovation efforts. Moreover, the European Commission aims to deploy eco-innovation towards a resource-efficient circular economy applying all those concepts at those levels where they contribute best (EIO 2016:5,6). In order to boost competitiveness and environmental protection, it encourages approaches that minimise material and energy flows by changing products and production methods. All of these eco-innovation performances are incorporated into new product's full lifecycle supported by six pillars of circular economy model. Different types of eco-innovations, product, process, organisational, marketing, social and system eco-innovation supports transformation from tradition linearmodel of production and consumption into a new circular model characterised by circular resource management.

Green knowledge, as a second factor is important driver along the path to a resource efficient green economy. The open circulation of green knowledge opens new opportunities for commercial transactions and economic pay-offs, while global role of the EU is spreading green knowledge among Member states in order to diffuse green technologies(EEA 2014:7). ***Fiscal reforms*** are next important enabling factors. In order to underpin the shift to the resource efficient green economy,economic instruments such as environmental taxes and emission trading schemes, policies that can change price systems (for example energy prices), are essential. Achieving the benefits expected from economic instruments and environmental fiscal reforms depends on how the environmental taxation is structured, contrary it could have adverse effects(EEA 2014:8).The availability of ***financial resources*** is the most important enabling factor for the long-term transition to a resource-efficient green economy. Financial needs for the investments in green technologies, infrastructure, and innovation at the European and global scale are huge. There are many capabilities for redirecting financial resources towards improving resource efficiency through a number of channels (EU institutions, EU funds, pension funds)(EEA 2014:8,9).

Figure 1 *Circular economy model*



Source:COM(2014) 398:5

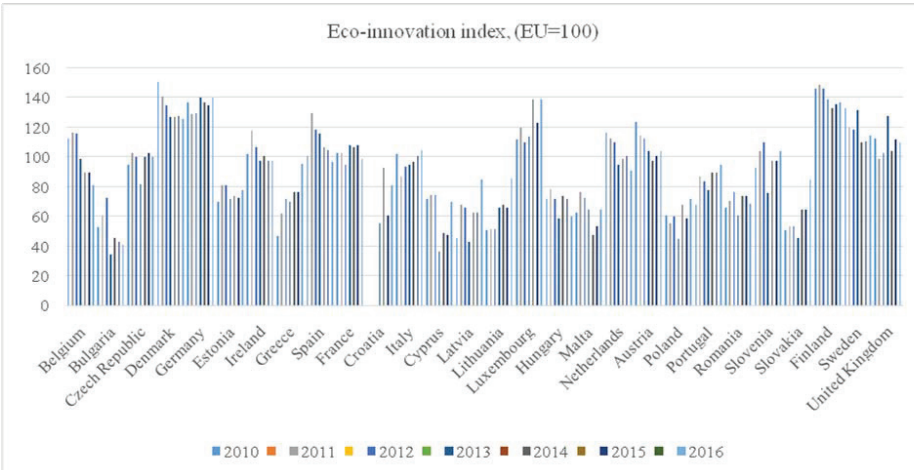
As mentioned before, the circular economyis another concept that is connected to the green economy throughthe strategies that refers to the green economy concept and the ambitions for a resource-efficient and low-carbon society. Circular economy is narrower in the scope and it refers mainly to physical and material resource aspects of the economy — fuel, minerals, water, biomass, etc. It place emphasis on recycling, remanufacturing, re-use, repair, and using waste as a resource, leading to reduced primary resource consumption. As such, the circular economy concept supports directly the resource efficiency dimensions of green economy objectives (EEA 2014:11,12).In traditional linear model of production and consumption, products are made, sold, used and disposed over and over again. This traditional model leads to generation of waste and increasing environmental impacts. Moving toward a circular values, products are made, sold, used, reused and recycled over and over again, enabling conservation of the natural resource base and creation of a new business opportunities through reuse and repair sectors which are labour-intensive and therefore contribute to the EU's jobs creation agenda (EIO 2013:42, COM(2015)614:7). Recycling, as one of the priorities of EU resource efficiency policies, lies in the heart of circular economy. A strategy to make the EU a 'circular economy' is based on a recycling society with the aim of reducing waste generation and using waste as a resource (COM(2011)21:6) generating new streams of secondary resources and new economic opportunities (EIO, CfSD, 2016:8). Recycling reduce the demand for extraction of new raw materials, help to reuse valuable materials which would otherwise be wasted, and reduce energy consumption and greenhouse gas emissions avoiding landfilling, processing or incineration of waste (COM(2011)21:4).

The proposed actions contributes in 'closing the loop' of product life-cycles through smarter design, greater forms of recycling and reuse, bringing opportunities in creating new quality jobs, contributing to more sustainable economic growth and bringing significant environmental improvements.

3. Eco-innovation and related resource efficient performance in Croatia

In order to evaluate eco-innovation performance across EU countries, a composite index, the Eco-Innovation Scoreboard (Eco-IS) has been developed by the Eco-Innovation Observatory. The scoreboard assesses the different aspects of eco-innovation through 16 indicators grouped into five thematic areas. First area refers to eco-innovation inputs which includes investments (financial or human resources)in order to induce eco-innovation activities. Eco-innovation activities, as second area, illustratesimplemented innovation activities in companies. Eco-innovation outputs, quantifies the outputs of eco-innovation activities in terms of patents, academic literature and media contributions. Resource efficiency outcomes putts eco-innovation performance in the context of a country's resource (material, energy, water) efficiency and GHG emission intensity. Last socio-economic area, illustrates social and economic outcomes of eco-innovation performance aspects (employment, export, turnover).In order to that, the Eco-Innovation Scoreboard shows how well individual Member States perform in economic, environmental and social dimensions of eco-innovation compared to the EU average, stressing their strengths and weaknesses.

***Figure 2** EU 28 Eco-innovation Index 2010 - 2016*

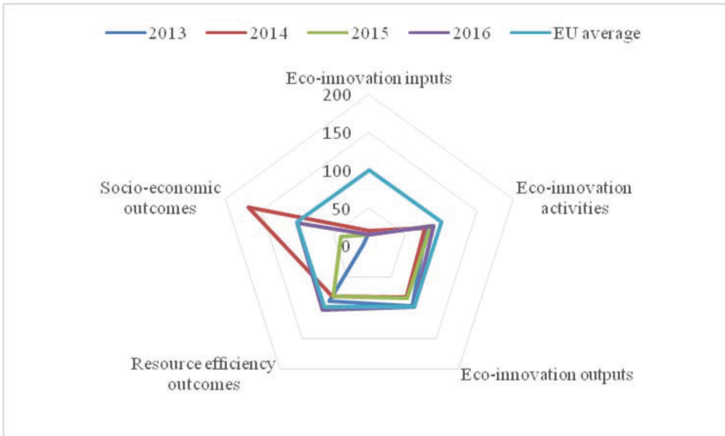


Source: Eurostat, Eco-Innovation Observatory

Therefore, Figure 2 illustrates the results from the aggregated eco-innovation index in period 2010 - 2016 providing overview of the overall Eco-innovation performance across the EU. Through the years, countries were clustered into three groups: Eco-innovation (EI) leaders, scoring significantly higher than the EU average; average Eco-innovation (EI) performers with scores around the EU average; and countries catching up in Eco-innovation (EI), with around 85% or less performance compared to the EU average. Top six performing countries in 2016, eco-innovation leaders, led by Germany, Luxemburg, Finland, Denmark, Sweden and United Kingdom were also highest ranked and in previous years, with only minor changes in position. With an aggregated score of 81 in 2016, Croatia positionedamong catching upcountries. Compared with the leading countries, Croatia had comparatively low score. Furthermore, compared with 2015 (witha score of 61), 2014 (witha score of 93) and 2013 (witha score of 56), Croatia shows very modest improvement with increased score by 25 points compared to 2013[1], not enough for moving up to average eco-innovation performers group. In order to identify strong and weak areas of the eco-innovation index, Figure 3 illustrates the single scores performance of the five components of the eco-innovation index for Croatia in the period 2013-2016.

[1]Croatia joined the European Union on 1 July 2013, thereby, first Eco-Is is measured for the year 2013.

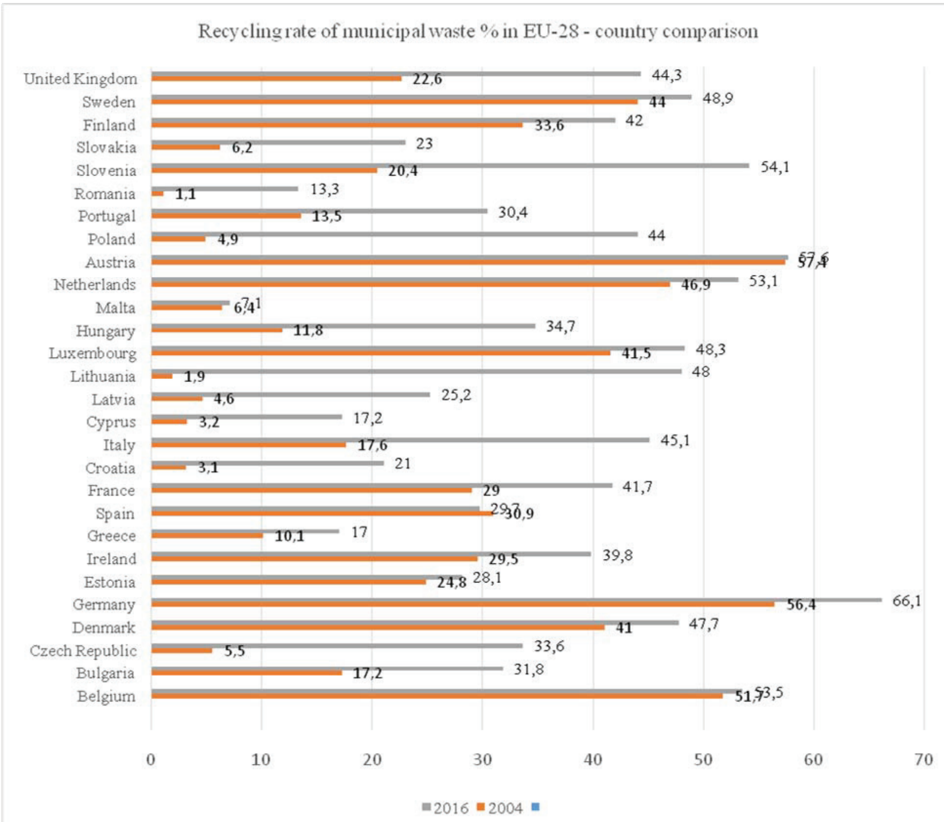
***Figure 3** Components of the eco-innovation composite index for Croatia 2013-2016*



Source: Eco-Innovation Observatory, 2017

Very poor performance in the area of eco-innovation inputs through the years are particularly emphasised in the area of government's investments in the environmental and energy R&D with 0.1 Euro per inhabitant (Eurostat) and total value of green early stage investments in eco-industries with only 15%, 10% and 8% of the EU average in 2015, 2014 and 2013, respectively.In the second thematic area of eco-innovation activities, Croatia shows better performance with a score of 89 in 2016 that slightly increased compared to 2013 (80), mainly due to high share of companies with ISO 1400 certifications (97 per one million inhabitants) and increase of companies which implemented innovation activities aiming at a reduction of energy compared to previous years. The area in which Croatia performed relatively betteris eco-innovation outputs with a score of 100, mainly determined by a very high performance regarding eco-innovation related media coverage with a score 146% above the EU average. The lowest performance is in the area of eco-innovation related patents with only 11 patents per one million inhabitants. Regarding to environmental (resource efficiency) outcomes, Croatia had best performing score, 4% above the EU average. Its score has increased by 22 points compared to 2015. Among the indicators for resource efficiency, the highest scores are achieved in water productivity with 64% above EU average, mainly due to the Croatia's large freshwater reserves and in GHG emissions intensity with 25% above EU average driven both by a reduction of territorial GHG emissions and an increase in GDP. Within the area of socio-economic outcomes, the data for Croatia showed that higher employment in eco-innovation and circular economy industries correlates with the higher revenues in this sector. The employment in eco-industries and circular economy was 40% above the EU average in the 2016, while turnover in the same sector was 53% above the EU average. Exports of products from eco-industries shows low values, only 48% of the EU average performance. These results positions Croatia among the EU average regarding socio-economic outcomes.

Figure 4 *Recycling rate of municipal waste % in EU-28 - country comparison*

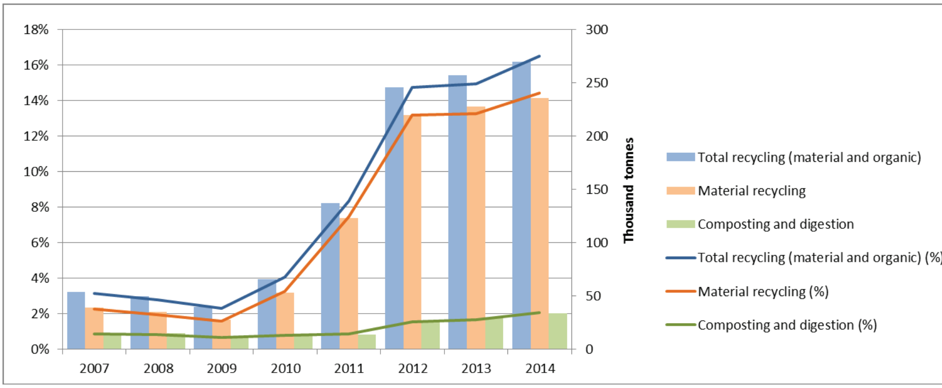


Source: European Environment Agency (EEA)[2]

As can be seen from Figure 4, eco-innovation leading countries are also leaders in recycling. There are large differences in performance among countries with the highest and lowest recycling rates.In respect with impressive recycling rates for Austria, Netherlands, Belgium, Slovenia and Sweden whichrecycled at least half of their municipal waste in 2016, Germany has long been one of the absolute leadersin the waste management. Regarding the numbers, 86.9% of household waste in Germany is recycled, while the European average in 2012 was just 37% (between 2008 and 2016, EU average recycling rates for municipal waste increased from 37 % to 46 % (Wilts, 2016:11,12, COM(2018)29:7).Recycling of municipal waste in Croatia started recently (data for recycled municipal waste is available from 207 onwards).

[2]On account of data availability, instead of 2004 data, 2007 data was used for Croatia; instead of 2016 data, 2014 data was used for Ireland; instead of 2016 data, 2014 data was used for Portugal; instead of 2016 data, 2015 data was used for Slovenia.

***Figure 5** Recycling rate of municipal waste in Croatia in period 2007–2014*



Source: European Environment Agency (EEA), 2016.

The total recycling level was low until 2010, but a significant increase can be seen after 2010. The main problem in waste management in Croatia lies in low proportion of recycled and high proportion of landfilled municipal waste. The landfilling rate of municipal waste in Croatia in 2013 was very high,85%, followed by poorly 14,9% of recycling rate. In 2015,80% of total municipal waste was landfilled and recycled rate was just 18%. In 2016, Croatia recycled 21% of municipal waste.According to*Waste management plan of the Republic of Croatia for the period 2017-2022*, despite significant efforts on a national, regional and local level to decrease the quantity of municipal waste created and landfilled, the percentage of separately collected and recovered waste is still relatively low and the largest part of the produced municipal waste is landfilled without previous treatment.The main challenge is to increase separate collection of materials from municipal waste, to develop recycling infrastructure and to decrease the total mass of landfilled waste.In countries with a low share of landfilling and high rate of recycling, waste management have an overall positive impact on environment. In order to achieve such an ambitious plan, European Commission set the clear targets in "closing the loop" of product lifecycles through greater recycling and re-use: a recycling rate of 65% for municipal waste by 2030, a recycling rate of 75% for packaging waste by 2030, binding reduce landfill to a maximum of 10% of miniciple waste by 2030, a ban on landfilling of separately collected waste and promotion of economic instruments to discourage landfilling and incinitation. According to recommendations from EEA (2016), Croatia needs to speed up its recycling efforts in order to fulfil the EU revised Directive on waste (COM(2015) 595 final).

4. Conclusion

The transition from a current economy system into a green economy, presents a great challenge for Croatia. The composite Eco-innovation index for 2016 places Croatia among ten least eco-innovative countries. In order tofulfil the EU revised Directive on waste, Croatia needs to shift focus regarding municipal waste, from disposal methods (landfilling) to prevention and recycling.Through the years, many of European countries has made substantial progress in turning waste into a resource and promoting sustainable ways of waste management such as recycling. Increasing recycling rates is necessary for reducing the pressure for primary rawmaterials, for reusing valuable material that would otherwise be wasted, andfor reducing energy consumption and greenhouse gas emissions from extraction andprocessing(COM(2011)21:4).Recycling is therefore a necessary precondition for a circular economy. Hence, in order to maximise the effects of recycling, accelerating eco-innovationin economy and society is priority. Primarily, because of modest results regarding all relevant components of eco-innovation performance, particularly in the area of eco-innovation related patentswith only 11 patents per one million inhabitants (compared to Germany, Denmark and Sweden with 237, 202 and 188 patents per one million inhabitants, respectively). Therefore, it is important to raise awareness of eco-innovation in Croatia among and local and regional authorities, industry and local society.The results confirmed that, due to a long period of economic recession, a general lack of adequate policies and competences, an inadequate waste management, a lack of regulatory framework and mechanisms for stimulating eco-innovation and new technologies, Croatia is still at the beginning its transition towards a green economy.

REFERENCES

COM(2010) 2020: Communication from the Commission. Europe 2020: A strategy for smart, sustainable and inclusive growth. EC (2010), Brussels.

COM(2011) 21: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A resource-efficient Europe – Flagship initiative under the Europe 2020 Strategy, EC (2011a).Brussels.

COM(2011) 571:Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Roadmap to a Resource Efficient Europe. Brussels.

COM(2011) 899: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Innovation for a sustainable Future - The Eco-innovation Action Plan (Eco-AP), EC (2011b), Brussels.

COM(2015) 614/2: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Closing the loop — An EU action plan for the circular economy, Brussels. EC (2015).

COM(2015)595final: Directive of the European Parliament and of the council amending Directive 2008/98/EC on waste. Brussels. EC 2015.

European Commission, 2012, Environmental economics http://ec.europa.eu/environment/enveco/jobs/ (accessed January, February 2018)

Eco-Innovation (2018). The Eco-Innovation Scoreboard and the Eco-Innovation Index. Available at https://ec.europa.eu/environment/ecoap/indicators/index_en (accessed January, February 2018)

European Commission, Eco-innovation, https://ec.europa.eu/environment/ecoap/about-action-plan/objectives-methodology#_ftn1 (accessed January, February 2018)

EEA (2013). Towards a green economy in Europe. EU environmental policy targets and objectives 2010–2050. EEA Report No 8/2013. Publications Office of the European Union, Luxembourg.

EEA (2014). Resource-efficient green economy and EU policies. EEA Report No 2/2014. Publications Office of the European Union, Luxembourg.

EEA (2015): https://www.eea.europa.eu/soer-2015/synthesis/report/0c-executivesummary (accessed January, February,2018)

EEA (2016): Circular economy in Europe: Developing the knowledge base. EEA Report No 2/2016. Publications Office of the European Union, Luxembourg.

EEA (2016): Municipal waste management, Country fact sheet, Croatia.

EEA (2016a): Municipal waste management across European countries, https://www.eea.europa.eu/themes/waste/municipal-waste/municipal-waste-management-across-european-countries/#note1 (accessed February, 2018)

EEA (2017): Recycling of municipal waste. https://www.eea.europa.eu/airs/2017/resource-efficiency-and-low-carbon-economy/recycling-of-municipal-waste (accessed February 2018)

EIO (2010): Methodological Report. Eco-Innovation Observatory, Brussels.
EIO (2013): Europe in transition. Paving the way to a green economy through eco-innovation. Annual Report 2012 Publications Office of the European Union, Luxembourg.
EIO (2016): Policies and Practices for Eco-Innovation Up-take and Circular Economy Transition. EIO Bi-annual report.
EIO (2017): EU Eco-Innovation Index: 2016 version, Technical Note.
EIO, CfSD (2016): Eco-innovate! A guide to eco-innovation for SMEs and business coaches.2nd edition, Eco-Innovation Observatory, Brussels.
Eurostat (2018): Circular economy. Available at http://ec.europa.eu/eurostat/web/circular-economy (accessed February 2018)
OECD (2011): Towards green growth A summary for policy makers, May 2011, Paris. http://www.oecd.org/greengrowth/48012345.pdf (accessed February, 2018)
OECD (2012): The Future of Eco-Innovation: The Role of Business Models in Green Transformation. OECD Background Paper. Available at https://www.oecd.org/innovation/inno/49537036.pdf (accessed February 2018)
UNEP (2010): Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication, United Nations Environment Programme, Nairobi.

Božidar Jaković, MB. Econ.[1]
College of Tourism and IT Management in Virovitica
M. Gupca, 78, Virovitica
Phone: +38533 492261   Fax: +38533 721037
E-mail address: bozidar.jakovic@vsmti.hr

Barbara Golub, bacc. oec.
College of Tourism and IT Management in Virovitica
M. Gupca, 78, Virovitica
Phone: +38533 492261   Fax: +38533 721037
E-mail address: barbara.golub@yahoo.com

ECOTOURISM DEVELOPMENT PERSPECTIVE OF UNRECOGNIZED PROTECTED AREAS: THE CASE OF REGIONAL PARK MURA-DRAVA

PERSPEKTIVA RAZVOJA EKOTURIZMA NEDOVOLJNO POZNATIH ZAŠTIĆENIH PODRUČJA PRIRODE: PRIMJER REGIONALNOG PARKA MURA-DRAVA

ABSTRACT

The protected areas in the 21st century record continuous growth, since they can satisfy diverse desires, needs and expectations of contemporary and extremely fragmented tourist demand. However, individually speaking, visitations greatly depend on the category, resource attractiveness, additional offer and other authentic features of the protected area. In Croatia, an additional aggravating circumstance of certain protected areas from the aspect of international interest in visiting is the lack of recognition of the value of a particular category of protection. The consequence of that is incompatibility of such categories with the categories of International Union for Conservation of Nature (IUCN). Regional Park is one of the protected areas that, as such, has not categorized by the IUCN, so there is no recognisability, neither value as globally known and uniquely categorized National Parks.

The purpose of this paper is to point out the potentials of this protected area, which can be valorised and exploited for tourism purposes by strengthening the recognisability of Regional Parks on the wider international market. The goal of the paper is to investigate and identify the main activities of the regional tourist boards and public institutions operating in the area of the Mura-Drava Regional Park in the direction of promotion and strengthening of the international recognition of the protected area.

The theoretical part of the paper will provide an overview of current research in the field of ecotourism in protected areas, with a focus on the development potential and recognisability of protected areas by using standard scientific methods (method of analysis and synthesis, historical and descriptive method etc.). In the empirical part of the paper will be presented the results of the primary research conducted on a suitable sample of the regional tourist boards directors and the directors of regional Public institutions of protected areas operating in the area of the Mura-Drava Regional Park. Accordingly, the research will be conducted in the area of the five counties in

[1]Ph.D. Candidate (student), postgraduate university doctoral study „Management of Sustainable Development" Faculty of Tourism and Hospitality Management Opatija

Continental Croatia on which the Regional Park spreads. With the primary purpose of obtaining relevant data, the interview method will be used for the purposes of this paper.
The findings will enable the definition of the main guidelines for improving the marketing activities of the Regional Park Mura-Drava as a destination, with the emphasis on strengthening the international recognition and image creation of Regional parks.

***Keywords**: ecotourism, protected areas, ecotourism supply, recognisability and visitation of protected areas, Regional Park Mura-Drava.*

SAŽETAK

Zaštićena područja prirode u 21. stoljeću bilježe kontinuirani rast posjećenosti, budući da mogu zadovoljiti raznolike želje, potrebe i očekivanja suvremene i izuzetno fragmentirane turističke potražnje. Međutim, pojedinačno gledano, posjećenost se uvelike razlikuje ovisno o kategoriji, atraktivnosti resursa, pratećoj ponudi i drugim autentičnim obilježjima zaštićenog područja. U Hrvatskoj, dodatna otežavajuća okolnost za pojedina zaštićena područja s aspekta međunarodnog interesa za posjećivanjem, predstavlja neprepoznavanje vrijednosti pojedine kategorije zaštite. Posljedica toga je neusklađenost takvih kategorija sa kategorijama Međunarodne unije za očuvanje prirode (IUCN). Regionalni park, jedno je od zaštićenih područja koje kao takvo nije kategorizirana prema IUCN-u, stoga ni nema prepoznatljivost, ali ni vrijednost kao globalno poznati i jedinstveno kategorizirani Nacionalni parkovi.
Svrha rada je ukazati na potencijale navedenog zaštićenog područja, koje je moguće valorizirati i iskoristiti u turističke svrhe jačanjem prepoznatljivosti regionalnih parkova na širem međunarodnom tržištu. Cilj izrade rada je istražiti i utvrditi glavne aktivnosti regionalnih turističkih zajednica i Javnih ustanova koje djeluju na prostoru Regionalnog parka Mura-Drava u smjeru promocije i jačanja međunarodne prepoznatljivosti predmetnog zaštićenog područja.
U teorijskom dijelu rada pružit će se prikaz dosadašnjih istraživanja u području ekoturizma u zaštićenim područjima prirode, s naglaskom na potencijale razvoja i prepoznatljivost zaštićenih područja prirode, korištenjem standardnih znanstvenih metoda (metoda analize i sinteze, povijesna te deskriptivna metoda itd.). U empirijskom dijelu rada bit će prikazani rezultati primarnog istraživanja provedenog na prigodnom uzorku direktora županijskih turističkih zajednica i ravnatelja županijskih Javnih ustanova zaštićenih područja koje djeluju na prostoru Regionalnog parka Mura-Drava. Sukladno tome, istraživanje će se provesti na području pet županija Kontinentalne Hrvatske u kojima se prostire Regionalni park. S primarnim ciljem dobivanja relevantnih podataka, za potrebe ovoga rada koristiti će se metoda intervjua.
Dobivene spoznaje omogućiti će definiranje glavnih smjernica za unapređivanje marketinških aktivnosti Regionalnog parka Mure-Drava kao destinacije, s naglaskom na jačanje međunarodne prepoznatljivosti i stvaranja imidža regionalnih parkova.

***Ključne riječi**: ekoturizam, zaštićena područja prirode, ekoturistička ponuda, prepoznatljivost i posjećenost zaštićenih područja prirode, Regionalni park Mura-Drava.*

1. Introduction

Ecotourism, as a specific form of tourism, represents a new movement with the main aim of protecting tourism destinations in their natural environment. It has emerged as an alternative to mass tourism. Its emergence is the result of contemporary trends, which imply a growing ecological awareness of consumers. Ecotourism is important for preserving natural and cultural heritage and tradition of the region in which it develops, preserves the environment, but also contributes to the

well-being of the local community. The essence of the overall concept is its three dimensions. Ecotourism is nature-based, educational and sustainably managed. Besides that, an additional dimension of ecotourism is that it provides personalized tourist experience. Although in the Strategy of Croatian Tourism by 2020 ecotourism is mentioned as a one of the key tourism product, there is still no significant progress of ecotourism development in Croatia. As in the rest of the world, ecotourism development was related to protected areas. Croatia is one of the countries with a wealth of natural resources and protected areas. Therefore, the possibilities for further ecotourism development are great. One of such unused potential is the Regional Park Mura-Drava.
Tourists interested in a natural setting are looking for a holiday full of adventure and surprises. They do not want fully planned holiday. Ecotourists' motives relate to travel motives such as escape from noise and pollution, escape from the monotony of everyday life, physical rest, discovering other regions and cultures, as well as discovering oneself. Thus, the perspective of ecotourism development is reflected in the preferences of ecotourists. Ecotourism activities may vary from "hard" to "soft" activities, according to which ecotourists also differentiate. Which group of ecotourists (hard or soft) will prevail in a particular natural area, mostly will depend on the characteristics and category of the protected area. Hard ecotourists are characterized by a small number of highly motivated and physical readiness participants, which takes long and specialized journeys and accommodation in primitive settings with their main goal of closer contact with nature and assist in its preservation. Soft ecotourists do not differ much from mainstream tourists and they are mostly interested in education and interpretation, sightseeing, new areas, relax and walks in nature, etc. All these activities are suitable to take place in protected areas and their additional attractiveness are manifested in the fact that they are a cultural artefact. Tourism in such areas is a process in which visitors connect experience and become acquainted with natural and cultural heritage and, as such, effect on the policy and the future of protected areas.

2. Ecotourism in Protected areas

Protected areas have a long history and some historians claim that certain areas of India have been protected due to their natural resources more than two millennia ago. In Europe, some areas were protected as hunting grounds for rich and powerful, almost a thousand years ago. During the renaissance, they became available for public use, e.g. they were no longer owned by kings and other national rulers (Eagles, McCool, Haynes, 2002). Nowadays, there is a need to spend time in protected areas and thus, the first forms of tourism in protected areas are being developed. The first National park in the world, Yellowstone in the USA, was founded in 1872, while in Europe were founded in the early 20th century. As previously mentioned, the beginning of ecotourism development is linked to the establishment of the first national parks. They played a major role in achieving the main goals, although the concept of ecotourism has not yet been used (Čorak and Mikačić, 2006).
Protected areas represent fundamental nature conservation strategy at the national and international levels. In many cases, at the beginning of the twentieth century, Public Institutions for the Management of Protected Areas were limited traditional rights and access to the area. Today, such areas are not only used to preserve biodiversity, but also for the protection of landscapes and cultural goods (Mackelworth and Jovanović, 2011). Considering that during the twentieth century a large number of protected areas were declared, whose criteria and approach to management were not equal in all countries, the International Conference on the Protection of Fauna and Flora (International Conference on the Protection of Flora and Fauna) decided to standardize categories of protected areas. They introduce four category of protected areas, e.g. national parks, strict nature reserves, flora and fauna reserves, and hunting and fishing bans. Meanwhile, there are changes in the

categories and the last one happened in 2008, when the International Union for Conservation of Nature (IUCN) adopted new definitions of seven categories of protected areas.[2]

In the last few decades, there has been an increasing interest in sustainable and eco-tourism, which has been encouraged by the concerns over the effects of tourism on the environment. Further, activities closely related to the experience of nature are becoming more and more popular. In such circumstances, the number of people involved in outdoor activities are growing, especially those related to hiking, biking and water activities such as kayaking and diving. Considering the difference between 'soft' and 'hard' activities, the ecotourism market has adjusted to the requirements of an individual group of ecotourist in order to satisfies their wishes and needs. Protected areas, as the main destination of the ecotourist, besides providing these activities, special attention should be paid to sustainable development and the preservation of their own values (Eagles, McCool, Haynes, 2002).

Tourism in protected areas generates revenue and thus contributes to the local, regional and national economy. It also provides direct interaction between visitors and the local population, which leads to both, positive and negative outcomes (Leung et al., 2014). With the tourism development in protected areas, benefits and costs arise. Management's responsibility is to maximize the benefits and at the same time to minimize costs. Protected areas have been established to preserve some types of biophysical processes or conditions such as wildlife populations, habitat, natural landscape or cultural heritage, together with enabling tourists to visit them in order to understand and respect the value of such area. The interest of tourists in such areas encourages the development of tourism, and some of the benefits that tourism brings to such areas are (Eagles, McCool, Haynes, 2002):

- economic benefits (e.g. new jobs for the locals, increased income, new businesses, boosting local production, improving living standards, increasing revenue for protected areas local communities, etc.),
- environmental benefits (e.g. protection of ecological processes and water, biodiversity, cultural heritage, education and interpretation of protected areas, etc.) and
- social benefits (e.g. encourages infrastructure development, environmental education for visitors and local population, improves intercultural communication, encourages the development of culture, crafts and art, increases the level of local population education and encourages them to learn the language and culture of tourists, but also to evaluate their culture and environment).

On the other hand, tourism in protected areas brings certain negative consequences and risks. Negative effects arises from tourist visits, but they can be reduced or managed in order to minimize them. It is important to identify all the negativity that tourism brings and subsequently monitor them to determine the current state, changes over time, and the significance and success of reducing such effects (Eagles, McCool, Haynes, 2002). Different tourist activities cause different biophysical influences in protected areas (e.g. the construction of roads, accommodation, airports, hiking trails, camps, swimming pools and other infrastructures for tourism purposes have inevitable environmental impacts which involves mineral and energy consumption, habitat depletion, water use and esthetical impacts on the environment (Spenceley, 2003).

Many protected areas in Croatia are suitable for tourism and recreational activities. Nevertheless, some of them still do not use enough their tourist potentials, while others are facing with the problems that tourism brings. Ecotourism in the protected areas of Croatia is at very beginning, because of the lack of accommodation and other facilities that meet the world-accepted criteria imposed by ecotourism. Besides protected areas, ecotourism facilities are provided by subjects that deal with some of the service-related forms of tourism (rural, mountain, sport, etc.) In addition, there

---

[2]State Institute for Nature Protection: IUCN Categories of Protected Areas, available at: www.dzzp.hr/zasticena-podrucja/kategorije-zasticenih-podrucja/iucn-kategorije-zasticenih-podrucja-251.html (22.2.2018.)

is a problem of low profitability of ecotourism, ignorance and lack of understanding of the usefulness of such a form of tourism (Svržnjak et al., 2014).
Unlike national parks, in nature parks there were certain forms of economic activity and housing construction before the proclamation. Therefore, tourism does not necessarily have to be excluded from the nature park, but it should be reduced to a framework within they will not destroy the main phenomenon of which protection is sought. National Parks and Nature Parks are affecting some of the general issues, e.g. non-existence of spatial plans of protected areas, poor environmental awareness of local government representatives, conflicts with the local population, excessive tourism flow, dangers of pollution, difficult financing, etc.[3]
Regional parks, as tourist destinations, shapes a regional identity in a modern way. They enable tourists to explore the variety of plants and animals and encourage active holidays with nature conservation. Since the regional park, as a category of protected areas, is not included in the IUCN categorization, their positioning and promotion on the European and global tourism markets is faced with numerous obstacles. Recognisability of protected areas is of great importance for ecotourists and other visitors. In Croatia, there are two regional parks and no one have significant tourist flow.

3. Ecotourism on the area of the Regional Park Mura-Drava

According to the Nature protection act (article 14, paragraph 2, NN 70/2005) "Regional Park is a naturally spacious or partly cultivated area of land and/or sea of a great biodiversity and/or geodiversity with valuable ecological features and landscape values that are characteristic for the area in which it is located". In the Regional Park economic and other activities is allowed that do not endanger its essential characteristics and role.[4] On 10th February 2011, the Government of the Republic of Croatia adopted the Decree on proclamation of the Regional Park Mura-Drava, the first regional park in the Republic of Croatia. With this Decree, the whole stream of the Mura and Drava River was protected.[5] The Mura and Drava River represent areas of exceptional natural values at regional, national and European levels. In addition to the territory of the Republic of Croatia (five counties: Međimurje, Varaždin, Koprivnica-Križevci, Virovitica-Podravina and Osijek-Baranja), the area of Regional Park extends through two neighbour countries (Republic of Slovenia and the Republic of Hungary). Within the Republic of Croatia lies the central part of this river system.[6]
The importance of the area of the Mura and Drava River is reflected in the fact that their flows are among the last transverse streams of lowland rivers in Central Europe and they are characterized by a high level of biodiversity. Particularly important are wetlands, which are among the most endangered in Europe and they are also protected in the Republic of Croatia (e.g. floody forests, wet lawns, dead wings, abandoned basins and meanders, shrines and steep shores of seagrass).[7] Prior to the proclamation of the Regional Park, there have already been a number of protected areas in its present territory. Between 1961 and 2001 some minor parts were protected (e.g. Significant Landscape of the Mura River, Castle Garden of Križovljan-Grad, White Peat Tree, Great Pažut, Oak

[3] Protected Areas in Croatia - Shapes and Problems, available at: www.geografija.hr/hrvatska/zasticena-podrucja-u-hrvatskoj-oblici-i-problemi/ (22.2.2018.)
[4] Nature of Međimurje: Regional park Mura - Drava, available at: www.medjimurska-priroda.info/zastita/regionalni-park-mura-drava/ (22.2.2018.)
[5] Public Institution for the Management of Protected Areas of Nature in the Koprivnica - Križevci County: Regional Park MURA - DRAVA, available at: www.zastita-prirode-kckzz.hr/zasticena-podrucja/regionalni-park-mura-drava (22.2.2018.)
[6] Nature of Međimurje: Regional park Mura - Drava, available at: www.medjimurska-priroda.info/zastita/regionalni-park-mura-drava/ (22.2.2018.)
[7] State Institute for Nature Protection: Professional background for designation of the Mura - Drava area in the Republic of Croatia regional park, available at: www.kckzz.hr/user_content/documents/Tekst_strucne_podloge.pdf (22.2.2018.)

Tree in Repaš, Čambina, Noskovačka Dubrava, Križnica, Jelkuš, Širinski Otok, Swampland Vir, Podpanj, etc.), which are shown in Table 1. (Feletar, 2013).

Table 1 *Individual Protected Areas in the Regional Park Mura-Drava*

Area of Regional Park	**Type of protection**	**County**	**Surface ($10.000\ m^2$)**	**Year of proclamation**
1. Significant Landscape of the Mura River	Significant landscape	Međimurje	15.000	2001.
2. Castle Garden of Križovljan-Grad	Monument to park architecture	Varaždin	32	1961.
3. Drava Forest near Varaždin	Park-Forest	Varaždin	87	2001.
4. White Peat Tree near Varaždin	Nature Monument	Varaždin	2	2001.
5. Oak Tree in Repaš	Nature Monument	Koprivnica-Križevci	0,1	1997.
6. A group of trees in Noskovačka Dubrava	Nature Monument	Virovitica-Podravina	1	1969.
7. Great Pažut	Special zoo reserve	Koprivnica-Križevci	1.000	1998.
8. Čambina	Significant landscape	Koprivnica-Križevci	50	1999.
9. Križnica	Significant landscape	Virovitica-Podravina	50	2001.
10. Jelkuš	Significant landscape	Virovitica-Podravina	250	2001.
11. Širinski otok	Significant landscape	Virovitica-Podravina	186	2001.
12. Swampland Vir	Significant landscape	Virovitica-Podravina	2	2001.
13. Podpanj	Special reserve	Osijek-Baranja	85	1998.

Source: Feletar, D. (2013.): Geografsko-demografske značajke Regionalnog parka Mura-Drava, Vol. 12., No. 24., pp. 8.

Apart from the biological and geological features, Regional Park Mura-Drava is unique due to its demographic characteristics, i.e. due to the mood of man and nature. This symbiosis has created valuable monumental and folk heritage and a specific humanized landscape. Scattered small villages, hamlets and very often-lonely households - finches (western part) and majuri or salaš (eastern part) characterizes the area of the Regional Park Mura-Drava (Feletar, 2013). Numerous archaeological finds prove the settlements of space since prehistoric times and cultural goods testify of human presence and activity in space. Tangible (e.g. churches, chapels, monasteries, houses, castles, summerhouses, factories, mills, quarries, paintings, instruments, flags, clothing, footwear, etc.) and intangible heritage (e.g. spiritual creativity, music, speaks, customs, traditional dishes, crafts, etc.)

are of the general historical, artistic, scientific and anthropological value of this part of Croatia.[8] Therefore, in addition to preserved nature and biodiversity, culture is a great potential for tourism development of this area.

In a wider area including the outermost part of the Park, a small number of agricultural households are engaged in supplementary economic activities. Only a small percentage of them deals with the production of agricultural products and handicrafts and provides tourism services (e.g. accommodation, guidance, trips, tours, etc.). The Regional Park Mura-Drava has an exceptionally high tourism resource base, but their use is inadequate or at a very low level. The main objective of ecotourism is to preserve resources that attracted tourists, most often respected by small entrepreneurs and family farms that have recognized the importance of natural, cultural and traditional values. In addition, agricultural area occupy one third of the Park, so there is an increasing number of ecological-producing farms that contribute to the ecotourism supply. Consumers recognize the quality of ecologically produced products and are willing to pay them higher prices. An additional strength of this area is that it provides a large number of domestic and traditional dishes, as food is one of the most important developmental components of tourism. In the area of the Park, there is a trend of production of branded agricultural products, e.g. Međimurje potatoes, Varaždin greens and Slavonian kulen.[9] Although it has been established that there are potential for tourism development, on the area of the Regional Park Mura-Drava has not developed a significant number of new eco-tourism destinations. The initial assumption of the paper is that the Park is not sufficiently recognized by the tourism demand (especially foreign) due to the lower promotion of this area. Therefore, in addition to the theoretical part of the paper, empirical research has been conducted in order to determine planned and undertaken measures and activities of the County Tourism Boards in cooperation with other stakeholders. The obtained results will be useful for defining the main guidelines for improving the marketing activities of the Mura-Drava Regional Park as a destination, with emphasis on strengthening international recognition and creating the image of regional parks.

4. Methodology

The subject of research is to establish the potential for tourism development and recognition of Regional Parks as protected areas. In order to highlight the importance of the Regional Park Mura-Drava as ecotourism destinations, an empirical research was conducted. The purpose of the paper is to point out the importance of strengthening the recognition of regional parks on the wider international market with the aim of better valorisation and usage of the potential for tourism development. The main aim of the work is to establish the perspective of ecotourism development based on the development potential perception of the respondents, with the special attention on the marketing activities and tools used in the function of strengthening the international recognition of Park. The research was conducted on a suitable sample of nine respondents by using a method of semi-structured interviews. The research area includes five counties, e.g. Međimurje, Varaždin, Koprivnica-Križevci, Virovitica-Podravina and Osijek-Baranja. The research included four of total five directors of County Tourist Boards and five directors of County Public institutions of protected area that operate in the area of the Regional Park Mura-Drava. From all of targeted respondents, only the Koprivnica Križevci Tourist Board did not want to participate in the research. The semi-structured interview consisted of nine questions. First, it was necessary to examine which forms of tourism favoured and what activities the respondents are taking to improve tourism in the Park.

[8] State Institute for Nature Protection: Professional background for designation of the Mura - Drava area in the Republic of Croatia regional park, available at: www.kckzz.hr/user_content/documents/Tekst_strucne_podloge.pdf (22.2.2018.)

[9] State Institute for Nature Protection: Professional background for designation of the Mura - Drava area in the Republic of Croatia regional park, available at: www.kckzz.hr/user_content/documents/Tekst_strucne_podloge.pdf (22.2.2018.)

Further set of questions examines the elements that, according to the opinion of the respondents, are of the particular importance for ecotourism development in the Park. In addition, the following questions examine which promotional tools are the most prominent and which are the most desirable tourism markets and target groups. Finally, the goal was to examine the limitations of ecotourism development, as well as the priority of some activities in the tourism industry of the Regional Park Mura-Drava.

5. Results of research and discussion

In determining the most targeted forms of tourism at the Mura-Drava Regional Park, all respondents generally emphasized ecotourism, adventure tourism and cycle tourism. Further, the promotion of nature and environment protection, projects focused on the protection of certain plant and animal species, protection and strengthening of autochthonous products and the limitations and recovery of pollution are the most significant activities undertaken by all respondents in the area of the Park. In addition, Međimurje Tourism Board emphasize that projects of protection and strengthening of autochthonous products are of significant importance since they are interested in the enogastronomic tourism development. As the most important elements for the eco-tourism development, all respondents state that are excellent biodiversity and landscape features, followed by cultural and historical values, gastronomy and enology.

Further, according to promotion, the most prominent promotion is through websites, social networks (Facebook and YouTube at most) and own printed materials. For example, specialized journals are least used as a promotional tool. School children and ecotourists on domestic and regional tourism markets are the major targeted groups of tourists.

Most respondents believe that the Regional Park Mura-Drava can be viewed as a unique destination, regardless of spatial differences. In addition to previous, they emphasize that the cooperation between the counties is satisfactory, which represent current possibilities of the commonly recognizable tourism products development.

Besides, cross-counties cooperation, respondents point out that cross-border cooperation is inevitable for the further development of ecotourism in the Park and it is important that local and regional governments encourage the local population to engage actively in tourism.

The major limiting elements of tourism development in the Park are the lack of interest of business entities for tourism, insufficient demand for regional parks and the lack of interest and insufficient knowledge of the local population.

From the aspect of the priority for further tourism development and the better position of ecotourism in the Regional Park Mura-Drava, it is identified that the priority are stronger promotion of the attraction and authentic supply on the targeted tourism markets and professional training of the local population for ecotourism. In addition, there has been identified and other important factors for intensive ecotourism development, such as improving the infrastructure and accessibility of the Park, encouraging the private and non-profit sector and the local population in ecotourism development of the Park, development of large thematic complexes using EU funds, etc.

Further research should investigate in more detail, the possibilities of creation and promotion of the commonly recognizable tourism products in order to improve current situation of the recognisability of the regional parks on the wider international market. Further, it is necessary to investigate interests of the local population and other relevant stakeholders in the context of participation in creating ecotourism supply and recognizable tourism products in the regional parks.

6. Conclusion

Protected areas have a long history and provide a fundamental nature conservation strategy at the national and international level. Such areas are used to preserve biodiversity, landscape conservation

and cultural goods. With increased interest for sustainable and ecotourism, protected areas become the main destination for tourists and visitors, which primary goal is to protect and experience nature. Although tourism in the protected areas brings a number of positive effects (e.g. generating revenue, interaction of tourists with local population, etc.), there are also negative impacts and risks. Thus, it is important to identify all the negativities that tourism brings to protected areas. In the Republic of Croatia, there are a large number of protected areas intended for tourist and recreational activities. Nowadays, some of them do not make enough use of their tourist potentials, and the Regional Park Mura-Drava can be considered as such. Since the establishment, in the Park area has not developed a significant number of new tourism destinations. The conducted empirical research has provided the results that can be used for creation of the main guidelines for improving the marketing activities of the Mura-Drava Regional Park as a destination.
The data obtained shows that the most important activities that are undertaken both from directors of County Tourism Board and County Public Institution of Nature Protection are the promotion of nature protection, the protection of certain plant and animal species and the limitations and remediation of pollution. The results of the research confirm that for further better recognisability of the Park and ecotourism development as a whole, creation and promotion of the commonly recognizable tourism products, encouragement of the local population to engage actively in tourism as well as cross-border co-operation are needed. The lack of interest of business entities for tourism, the inadequate demand of regional parks and the lack of knowledge of the local population are the most limiting elements of ecotourism development of the Park. In addition, the priority for further ecotourism development is the stronger promotion of attractions and authentic supply by public organizations on targeted tourist markets and professional training of local population for ecotourism.

REFERENCES

Čorak, S., Mikačić, V. (2006): ***Hrvatski turizam: plavo, bijelo, zeleno.*** Zagreb: Institut za turizam.

Eagles, Paul F. J., McCool, Stephen F., Haynes, Christopher D. A. (2002): ***Sustainable Tourism in Protected Areas: Guidelines for Planning and Management***. Switzerland and Cambridge: IUCN

Feletar, D. (2013): ***Geografsko – demografske značajke Regionalnog parka Mura – Drava***. Podravina: časopis za multidisciplinarna istraživanja, Vol. 12, No. 24, pp. 5-21.

Leung, Y.-F., Spenceley, A., Hvenegaard, G., Buckley, R. (2014): ***Tourism and Visitor Management in Protected Areas***. Sydney: IUCN

Mackelworth, P., Jovanović, J. (2011): ***Zaštićena područja – temelj za očuvanje prirode ili podloga za održivi razvoj? Primjer zaštićenog područja mora u creskološinjskom arhipelagu***. Hrvatski geografska glasnik, Vol.73, No.1, str. 229-244

Nature of Međimurje: ***Regional park Mura - Drava***, available at: www.medjimurska-priroda.info/zastita/regionalni-park-mura-drava/ (22.2.2018.)

Nature Protection Act. NN 80/13, URL: www.narodne-novine.nn.hr/clanci/sluzbeni/2005_06_70_1370.html

Protected Areas in Croatia - ***Shapes and Problems***, available at: www.geografija.hr/hrvatska/zasticena-podrucja-u-hrvatskoj-oblici-i-problemi/ (22.2.2018.)

Public Institution for the Management of Protected Areas of Nature in the Koprivnica - Križevci County: ***Regional Park MURA - DRAVA***, available at: www.zastita-prirode-kckzz.hr/zasticena-podrucja/regionalni-park-mura-drava (22.2.2018.)

Spenceley, A. (2003): ***Managing Sustainable Nature-based Tourism in Southern Africa: A Practical Assessment Tool***. Greenwich, UK: University of Greenwich.

State Institute for Nature Protection: ***IUCN Categories of Protected Areas***, available at: www.dzzp.hr/zasticena-podrucja/kategorije-zasticenih-podrucja/iucn-kategorije-zasticenih-podrucja-251.html (22.2.2018.)

State Institute for Nature Protection: ***Professional background for designation of the Mura - Drava area in the Republic of Croatia regional park***, available at: www.kckzz.hr/user_content/documents/Tekst_strucne_podloge.pdf (22.2.2018.)

Svržnjak, K., Kantar, S., Jerčinović, S., Gajdić, D. (2014): ***Mogućnosti razvoja ekoturizma u Koprivničko – križevačkoj županiji***. Križevci.

Žiga Kotnik, Assistant, PhD
Faculty of Administration, University of Ljubljana
SI-1000 Ljubljana, Slovenia
Phone: 0038-631.768.748 Fax: 0038-515-805.101
E-mail address: ziga.kotnik@fu.uni-lj.si

Maja Klun, Full Professor, PhD
Faculty of Administration, University of Ljubljana
1000 Ljubljana, Slovenia
Phone: 0038-615-805.547 Fax: 0038-515-805.101
E-mail address: maja.klun@fu.uni-lj.si

Maja Grdinić, Assistant Professor, PhD
Faculty of Economics, University of Rijeka
51000 Rijeka, Croatia
Phone: 0038-551.355.114 Fax: 00385-51-212-268
E-mail address: maja.grdinic@efri.hr

PERFORMANCE BUDGETING IN THE FIELD OF ENVIRONMENT WITH AN EMPHASIS ON ECO TAXES: THE CASE OF SLOVENIA AND CROATIA[1]

PLANIRANJE PRORAČUNA NA TEMELJU MJERENJA OSTVARENIH REZULTATA U PODRUČJU OKOLIŠA S POSEBNIM NAGLASKOM NA EKOLOŠKE POREZE: SLUČAJ SLOVENIJE I HRVATSKE

ABSTRACT

Environmental regulation is one of the most changing in the last few years. Slovenia and Croatia as EU Member states should follow also EU regulation. During the accession process to EU Slovenia was not very successful in implementing the environmental regulation. Nevertheless eco taxes was implemented far before the accession process and they were in accordance to recommendations at EU level. The first Eco tax was introduced in 1995 and after that much more eco taxes followed. In Croatia the first Eco tax was introduced in 1994 and it was the special tax (excise duty) on petroleum products. In 2010, in accordance with the recommendations of the EU, Croatia has replaced this special tax on petroleum products with excise duties on energy products and electricity. Excise duties on energy products and electricity, in addition to petroleum products, include energy products used for heating and transport, as well as electricity.

Environmental taxes are one of the most suitable and widely used policy instruments for tackling the pollution problems. As an instrument of environmental policy, an environmental tax is a tax, the tax base of which is a physical unit (or proxy of a physical unit) of something that has a proven, specific negative impact on the environment, and which is identified as a tax in the European System of Accounts (ESA 95). These taxes have a double role. They are in fact used to alleviate the burden of other taxes and are also earmarked, in the sense that the revenues they raise are pre-committed to specific expenditure programmes and as such provide an income source for environmental protection in municipal and state budgets.

[1] This work has been fully supported by the Croatian Science Foundation under the project Tax Policy and Fiscal Consolidation (8174)

Despite the number of different eco taxes the revenues from eco taxes are low, and at EU level even decreasing. Partly this is the result of other environmental measurements that promote more environmental friendly production. The goals of environmental policy can be easily figured from budget documents, especially those connected to performance budgeting.
In the paper we will present the development of eco taxation in Slovenia and Croatia and comparison of budget performance indicators of environmental policy in both countries.

Key words: *environmental tax, performance budgeting, environmental protection, Slovenia, Croatia.*

SAŽETAK

U posljednjih nekoliko godina sve su češće promjene u području propisa o zaštiti okoliša. Slovenija i Hrvatska kao države članice EU također trebaju slijediti i primjenjivati propise EU. Tijekom procesa pristupanja Europskoj uniji Slovenija nije bila vrlo uspješna u provedbi propisa o zaštiti okoliša. Unatoč tome, ekološki porezi postojali su u poreznom sustavu Slovenije daleko prije procesa pristupanja i bili su u skladu s preporukama na razini EU. Prvi ekološki porez uveden je 1995. godine, a u razdoblju nakon toga i ostali oblici ekoloških poreza. U Hrvatskoj je 1994. godine uveden prvi ekološki porez i to poseban porez (trošarina) na naftne derivate. Hrvatska je 2010. godine, sukladno preporukama EU, zamijenila posebni porez na naftne derivate trošarinama na energente i električnu energiju. Trošarine na energente i električnu energiju, uz naftne derivate, uključuju energetske proizvode koji se koriste za grijanje i transport, kao i električnu energiju.
Ekološki porezi jedan su od najprikladnijih i najčešće korištenih instrumenata politike zaštite okoliša i rješavanja problema onečišćenja. Kao instrument politike zaštite okoliša, ekološki porez je porez čija je porezna osnovica fizička jedinica nečega što ima dokazani, specifični negativan utjecaj na okoliš i koji je identificiran kao porez u Europskom sustavu računa (ESA 95). Ovi porezi imaju dvostruku ulogu. Koriste se za ublažavanje tereta drugih poreza, te imaju određenu namjenu u smislu da se prihodi od tih poreza koriste za točno određene, specifične programe, te kao takvi čine izvor prihoda za zaštitu okoliša u državnom proračunu, kao i u proračunu lokalnih jedinica javne vlasti.
Unatoč velikom broju različitih ekoloških poreza, prihodi od ekoloških poreza su niski, a na razini EU se čak i smanjuju. Takvi trendovi su djelomično rezultat drugih mjera zaštite okoliša koji promiču ekološki prihvatljiviju proizvodnju. Ciljevi politike zaštite okoliša mogu se lako objasniti putem iz proračunskih dokumenata, posebno onih povezanih s proračunom temeljenim na mjerenju ostvarenih rezultata.
U radu će biti predstavljen razvoj ekološkog oporezivanja u Sloveniji i Hrvatskoj i pokazatelja učinka politike zaštite okoliša u obje zemlje.

Ključne riječi: *ekološki porez, proračun temeljen na rezultatima, zaštita okoliša, Slovenija, Hrvatska.*

1. Environmental regulation in the EU

European Union has set environmental policy and environmental protection as one of its top priorities areas (Keohane and Nye, 1989). The effects of climate change knows no boundaries. Therefore, dealing with environmental issues requires the cross-country international cooperation of several nation states within EU and beyond in order to be effective, because nation state on its own could not resolve environmental issues.

The European Union has accepted several environmental actions in the past decades in order to improve the environmental quality. EU directives are the main source of environmental regulations that Member States need to be transfer into national legislations. Until now, in order to adequately address environmental issues, the EU has accepted more than 200 legal acts, including more than 140 directives. Environmental policy of the EU present a joint decision-making compromise among EU Member States, however one should note this compromise is usually subordinated to the will of three powerful countries Germany, France and the United Kingdom. At large, four important EU institutions, namely: the European Commission, the Parliament, the Court, and the Council, along with several other public policy actors (NGOs, Business Associations, ect.) have to come to consensus about different environmental policy issues within and among themselves.

Every Member State may have to follow the rule of environmental law in the EU and is obliged to transfer it into national legislation. However, Member States still reserve the right to raise voice in some cases, namely (Weale, 2005, 132):

- the possibility to exercise their veto power in area of special concern;
- the pattern of agenda-setting at EU level that owes much to national preferences;
- persistence of national norm-setting and policy-making;
- the role of national economic interests in the conduct of environmental policy.

However, the supranational policy approach of the whole EU in terms of state collaboration ought to be followed to acquire the most beneficial effects in the environment, and not only individualistic agendas of the Member States. Over the past decades, the European Union has put in place a broad range of environmental legislation. European Union's environmental protection policies has been a subject of several action plans that arise from EU legislation and are orientated towards preventive actions. The current 7th Environment Action Programme (EAP) that entered into force in 2014 is now guiding European environment policy (EC, 2018). It addresses the environmental challenges and provides a strategic framework for the Commission's environmental policy up to 2020. It sets out the framework for environmental policy-making in the EU and includes several areas, namely: waste prevention and recycling, natural resources, marine environment, air pollution, pesticides, urban environment, and soil. Especially due to the effects of the previous EAPs, and as their result air, water and soil pollution has significantly been reduced. The 7th Environment Action Programme (EAP) determine three key objectives, namely:

- to protect, conserve and enhance the Union’s natural capital;
- to turn the Union into a resource-efficient, green, and competitive low-carbon economy;
- and to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing.

The 7th EAP defines two additional horizontal priority objectives complete the programme, namely: to make the Union's cities more sustainable, and to help the Union address international environmental and climate challenges more effectively.

The environmental policy within the 7th EAP also categorize the four so called "enablers" that will help Europe deliver on these goals: better implementation of legislation, better information by improving the knowledge base, more and wiser investment for environment and climate policy, and full integration of environmental requirements and considerations into other policies.

2. Environmental regulations in Slovenia and Croatia

Slovenia and Croatia are both aware of the significance of reaching the desired environmental policy objectives of the EU, especially when it comes to effectiveness and efficiency use of energy and increasing the energy share from renewable resources. The latter extremely important in the view of reaching European 20-20-20 targets, because it present an enormous potential for, e.g. reducing the ambient pollution and for contribution to the decrease of global warming due to greenhouse gas emissions (CO_2 equivalents). In this way countries may give their share to increased economic competitiveness, greater energy security, higher level of employment and subsequently higher regional development.

Slovenia and Croatia as EU Member States are constantly harmonizing their legislation with European environmental regulations that has been constantly changing in the last few year. During the accession process to EU Slovenia was not very successful in implementing the environmental regulation. Nevertheless, eco taxes were implemented far before the accession process and they were in accordance to recommendations at EU level. The first Eco tax was introduced in 1995 and after that much more eco taxes followed. In Croatia the first Eco tax was introduced in 1994 and it was the special tax (excise duty) on petroleum products. In 2010, in accordance with the recommendations of the EU, Croatia has replaced this special tax on petroleum products with excise duties on energy products and electricity. Excise duties on energy products and electricity, in addition to petroleum products, include energy products used for heating and transport, as well as electricity.

Surprisingly, in Slovenia privately owned enterprises, particularly small-size companies, lack an adequate knowledge about regulation in the field of environment. On the other hand, medium and large enterprises are stated not to have these problems since they are not under-staffed. Especially non problematic are national companies who do business abroad like companies Krka, Donit, Revoz Litostroj Power, Sava or Gorenje. Simmilar situation was also found to be true for Croatia small- and medium-sized companies.

Apart from that, some other issues concerning deficient implementation of existing environmental regulations remains, e.g. lack of inspections or inadequate execution of inspector supervisions, lack of execution of sanction programs, disperse instead of an uniform place of adequate environmental indicators, lack of adequate environmental objectives, nonexistence of adequate environmental indicators, and target values.

3. Environmental taxes

Environmental taxes are one of the most suitable and widely used policy instruments for tackling the pollution problems. As an instrument of environmental policy, an environmental tax is a tax, the tax base of which is a physical unit (or proxy of a physical unit) of something that has a proven, specific negative impact on the environment, and which is identified as a tax in the European System of Accounts (ESA 95). Environmental taxes have three key functions: internalisation of external costs (e.g. optimal tax rate should correspond to overall social marginal costs of pollution), financial (all taxes are usually financially generous, and collected funds could serve in environment protection), and educational (serve to encourage potential pollutants). Environmental taxes in this context have undoubtedly a double role. They are in fact used to alleviate the burden of other taxes, and are also earmarked, in the sense that the revenues they raise are pre-committed to specific expenditure programmes and as such provide an income source for environmental protection in municipal and state budgets.

In general, environemntal taxes consist of four types of taxes: energy taxes, pollutions taxes, resource taxes, and transport taxes. The distribution of environmental tax revenues for both countries for 2016 is demonstrated in Table 1.

***Table 1** Environmental tax revenues distribution in Slovenia and Croatia in 2016 (as % of total revenues from environmental taxes and social contributions)*

Country	Slovenia	Croatia
Energy taxes	8.89	7.00
Pollution taxes	0.19	0.00
Resource taxes	0.21	0.04
Transport taxes	1.19	2.24
Total environmental taxes	10.48	9.28

Source: calculations of authors

In comparison with other EU-Members Slovenia and Croatia have relatively high revenue from environmental taxes than most of other Members, which is partly due to higher energy use. At the end of 2018, the budget revenue from these environmental taxes amounted to 3.87 % of GDP in Slovenia, and 3.51 % GDP for Croatia, while the EU average was 2.44 % of GDP.

In Slovenia environmental regulations consists of 17 legal acts (MOP, 2018). The most important for environmental protection among them is the Environmental Protection Act (EPA). Slovenia adapted the EPA in 199, in compliance with EU guidelines and directives. The EPA consists of essential environmental protection measures and principles, environmental condition monitoring and information about environment, economic and financial instruments of environmental protection, environmental protection public services and other issues related to environmental protection. In Slovenia, the main goal of the EPA is to direct and to accelerate such kind of social development that allows long-term conditions for well-being, general quality of life, human health, and preservation of biodiversity. In Slovenia, environmental protection goals may be stimulated and promoted with several financial and economic mechanisms, namely:

- environmental taxes;
- by means of the budget;
- trade with emission allowances;
- management of the »Kyoto units« and emission allowances;
- deposits and other forms of securities;
- insurances, bank guarantees and other forms of financial security;
- joint investments in projects to reduce environmental burden;
- loans with favorable interest rate, business capital investments, guarantees or other forms of securites;
- and subsidies or other forms of grants that contribute to environmental protection.

Under Environmental Protection Act Slovenia adopted nine environmental taxes. All of them are administered by Financial Administration of the Republic of Slovenia. These taxes are consists of taxes on:

- the pollution of air with carbon dioxide emissions (CO_2 tax),
- the use of lubricating oils and fluids;
- landfilling with scrap motor vehicles;
- landfilling with scrap pneumatic tires;
- landfilling with scrap packaging;
- landfilling with waste electrical and electronic equipment;
- environmental pollution due to the use of volatile organic compounds;
- environmental pollution caused by waste water discharge;
- environmental pollution caused by waste disposal.

In Croatia environmental regulations consists of 19 legal acts. The most important environmental regulation act is the Law on Environmental Protection. This law establishes the principles of environment protection in Croatia, provides a framework for further regulation with respect to environment protection and makes provision for the implementation of environment protection policies and plans and the administration of the environment.

Under the Law of Environmental Protection Croatia adopted eight basic types of environmental taxes and charges, namely:

- special motor vehicle tax;
- excise duty on electricity;
- excise duty on natural gas;
- excise duty on solid fuels;
- charges for environment pollutants;
- charges for the environment users;
- charges for environmental impact of waste;
- and special environmental charge for motor vehicles.

Despite the number of different eco taxes the revenues from eco taxes are low, and at EU level even decreasing. Partly this is the result of other environmental measurements that promote more environmental friendly production. The goals of environmental policy can be easily figured from budget documents, especially those connected to performance budgeting. In the following chapter we present performance budgeting and example of the performance indicators for environmental policy in Slovenia.

4. Performance budgeting and environmental policy

Performance budgeting is the latest trend in attempts to improve government performance. It is a promising tool for improving governance and accountability of public finance expenditures (Osborne 2007). Within this budget concept, the main focus is not on resources *per se* but also on results and impacts. In other words, performance budgeting aims to improve the efficiency and effectiveness of public expenditure by linking the funding of public sector organizations to the results they deliver. Improving and measuring performance in the field of environmental protection and pollution has pre-occupied governments for at least half a century.

Performance budgeting is a tool that holds promise for improving the governance and accountability of public finance expenditures. This new budget concept connects the findings of performance measurement to budget allocations and investigates the connection among spent public appropriations and planned public objectives. Performance budgeting is important for studying environmental issues because environmental taxes are one of the few taxes that are collected in order to be spent and reinvested in the environment.

Slovenian budget in 2018 is a program budget that is divided in 24 policy spending areas or programs, environmental protection and environmental infrastructure as 15th public policy being one of them. By building an appropriate environmental local public infrastructure, the goal of 15th public policy program is to provide a healthy living environment for the inhabitants. In the area of environmental protection, strategically important long-term policies and goals are aimed at prevention or the reduction of consequences on areas that pose a threat to sustainable development.

The explanatory statement of the adopted budget for of 15th public policy, i.e. environmental protection and environmental infrastructure divides this policy programs, subprograms, proponents of financial plans contributing to policy implementation, priority axis, general and specific policy objectives, related environmental indicators and achieved results for each of the categories. 15th public policy is defined on 18 pages and consists of six programs that are further divided in 13 subprograms and together contains 97 indicators. The example of the budget section from this public policy is presented below and in Table 2.

Policy: 15 - ENVIRONMENTAL PROTECTION AND ENVIRONMENTAL INFRASTRUCTURE

Proponents of financial plans contributing to policy implementation:
1541 - Government Office for Development and European Cohesion Policy
2550 - Ministry of the Environment and Spatial Planning

General objectives and their indicators for the period 01.01.2017 - 31.12.2018
C7032 - Priority axis 6: Better state of the environment and biodiversity
C1841 - Achieving good status in the environment and nature and reducing the impact of climate change impacts and increasing the safety of the population

Table 2 *Example of presentation of indicators connected to proponents of financial plans and general objective C7032 and C1841*

ID	Indicator	Source	Measuring unit	Base year	Base value	Year	Achived value	Reference value	Target value
I04019	Measuring locations in Slovenia, where no. days with exceeded daily limit concentration O_3 greater than 25	ARSO, Eurostat	%	2008	80.00	2011	75.00		
						2014	33.00	50.00	50.00
						2015	0.00	50.00	50.00
						2017	0.00		60.00
						2018	0.00		60.00
I04020	Measuring locations in Slovenia, where no. days with exceeded daily PM10 concentration limit greater than 35	ARSO, Eurostat	%	2008	67.00	2011	79.00		
						2014	13.00	0.00	0.00
						2015	0.00	0.00	0.00
						2017	0.00		65.00
						2018	0.00		65.00
I08352	Fulfillment of greenhouse gas emission reduction commitments gas (GHG) under EU legislation		equivalents CO2	2013	12278.00	2016	0.00	12.371,00	12371,00
						2017	0.00	12.401,00	12359285.00
						2018	0.00	12.432,00	12390747.00
						2019	0.00	12.462,00	12422210.00
						2020	0.00	12.493,00	12453673.00

Source: calculations of authors

In Croatia, according to our knowledge, budget is not divided into policy spending areas, as it is the case in Slovenia, but rather according to the established major 43 budget spenders, where Ministry of environment and energy being one of them. The explanation of the budget for this ministry consists of 86 pages alone, where Croatian budget for 2018 in total is presented on 1437 pages. The example of the budget section from Ministry of environment and energy is presented below and in Table 3.

077 MINISTRY OF ENIVONMENT AND ENERGY
3401 ENVIRONMENTAL PROTECTION
A784047 IMPLEMENTATION OF THE EUROPEAN UNION STRATEGY FOR THE DANUBE REGION, SUPPORT TO PRIORITY AREA 6
3402 Environmental protection
Objective 1. Improve prerequisites to prevent all types of environmental pollution
Objective 2. Provide prerequisites for mitigation and adaptation to climate change and the protection of the ozone layer

Table 3 *Performance indicators for environmental protection connected to objective 1 and 2*

Performance indicators	Definition	Measuring unit	Base value	Source	Target value (2018)	Target value (2019)	Target value (2020)
Implementation of the Air Protection Plan	Implementation of measures defined by the Plan	%	50	MZOE	70	80	90
Maintaining the continuity of the implemented procedures of strategic environmental impact assessment	Evaluation and strategic assessment procedures carried out	%	70	Strategic plan MZOE	75	80	85

Source: calculations of authors

5. Conclusion

This paper gave an outline of environmental regulation in the European Union, where special focus was on environmental regulations in Slovenia and Croatia. We demonstrate the connection between performance budgeting and environmental protection policy.
In the last two decade EU countries with high level of fiscal accountability have followed recommendations of international organizations to implement the concept of performance budgeting. The key element of performance budgeting is results orientated budget, in comparison to traditional budget which is strictly focused on resources. The result-based budget is based on programs and defined performance indicators that generate the information needed to evaluate the effects of its implementation.

Insufficient focus on defining the goals, target values and indicators with which we measure the progress within individual public sector program or subprogram may be found as possibly the main reason for the failure to concretize theoretical framework in measuring performance and efficiency in Slovenia and Croatia. What means that the concretization of performance budgeting in environmental perspective is not yet adequately achieved. The analysis of budget documents for environmental policy for Slovenia and Croatia showed that objectives of the environmental public sector are very diverse and also often very difficult to be identified. Especially in case of Croatia, it would be more appropriate, that the budget is primarily structured in accordance with individual budget spending policy areas, as is the case in Slovenia. Both countries also lack adequate environmental objectives, corresponding indicators and target values in some programs and subprograms. For this reason, care should be taken when determining the objectives of programs, indicators and their target values. At the same time, one should be aware that there are differences between the expressed desired state and the actual situation. Adequate indicators may help to determine the differences among the actual and the desired situation and demonstrate the decrease or increase of the trend. Establishment of performance budgeting may help public policy planners to create a manageable and more transparent budget. Defining programs, subprograms, objectives, related proponents of objectives, targets and target values offers could allow tractability of budgetary public appropriations' spending.

REFERENCES

http://ec.europa.eu/environment/action-programme/ (accessed on the 4th January 2018)

https://www.ecolex.org/details/legislation/environmental-protection-act-lex-faoc082346/ (accessed on the 12th January 2018)

https://hrcak.srce.hr/file/220336 (accessed on the 2th February 2018)

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/en/zvo_s.pdf (accessed on the 2th January 2018)

http://www.mfin.hr/adminmax/docs/Obrazlozenje%20financijskih%20planova%20korisnika%20drzavnog%20proracuna%20za%202018.%20godinu%20i%20projekcije%20za%202019.%20i%202020.%20godinu.pdf (accessed on the 20th December 2018)

http://www.mf.gov.si/fileadmin/mf.gov.si/pageuploads/Prora%C4%8Dun/Sprejeti_prora%C4%8Dun/2018/OBR18oPOL15oOkolj.pdf (accessed on the 20th December 2018)

https://www.oecd.org/.../budgeting/Performance-Budgeting-Guide.pdf (accessed on the 2th October 2017)

http://www.mop.gov.si/si/zakonodaja_in_dokumenti/veljavni_predpisi/ (accessed on the 24th February 2018).

http://www.fu.gov.si/en/taxes_and_other_duties/areas_of_work/environmental_taxes/ (accessed on the 5th February 2018)

http://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental_tax_statistics (accessed on the 5th February 2018)

http://www.mf.gov.si/fileadmin/mf.gov.si/pageuploads/Prora%C4%8Dun/Sprejeti_prora%C4%8Dun/2018/OBR18oPOL15oOkolj.pdf (accessed on the 26th February 2018)

Anita Kulaš Mirosavljević, PhD
College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: 035/492-633 Fax: 035/492-804
E-mail address: anita.kulas@vusb.hr

MIGRATION AS A DEMOGRAPHIC DIMENSION OF GLOBALIZATION ON EXAMPLE OF CROATIA AND SELECTED MEMBER STATES OF THE EUROPEAN UNION

MIGRACIJA KAO DEMOGRAFSKA DIMENZIJA GLOBALIZACIJE NA PRIMJERU HRVATSKE I ODABRANIH DRŽAVA ČLANICA EUROPSKE UNIJE

ABSTRACT

Globalization by the end of the 20th century has become a modern world process that has significantly influenced the balance of political, economic and cultural systems. Because of its interdisciplinary, globalization becomes a multidimensional process of demography, economy, society, culture and, politics. Each of these dimensions is a dimension to itself, but also dependent on others. For example, if there is an imbalance in the economy of one country, this imbalance will first affect other dimensions of the local market itself (society, culture, politics, demography), but later on the global market. In this paper, special attention will be given to demography, or to one of its components - migration.

Demography is a discipline in social sciences studying the population. It looks at the composition of the population and its movement. Demographic potentials are an integral part of total development because their changes affect the very social structure and social relationships. Depending on the degree of economic development, the population is an important factor in the field of spending on goods and services. Elements of the demographic dimension of globalization are natality, mortality, prolonged lifespan, cultural identity change, and global migration. Gender and immigration represent positive components of the total population movement (so-called "demographic balance assets"), while mortality and emigration represent negative components (so-called "passive" demographic balance).

Migration has a major impact on the direct mixing of cultures. It quickly changes the dynamics of the overall movement because people have their knowledge, skills, and everything they do from their relationships to another region. They thus impoverish the region they came from.

The purpose of this paper is to prove that population migration is permanent in most European countries, and not just in Croatia.

The aim of the paper is to analyze the migration of the population of the Republic of Croatia and the selected member states of the European Union (Republic of Austria, Czech Republic and Republic of Bulgaria) from 2006 to 2016.

Key words: *globalization, population, demography, migration.*

SAŽETAK

Globalizacija tek krajem 20. stoljeća postaje suvremeni svjetski proces koji je značajno utjecao na ravnotežu političkih, gospodarskih i kulturnih sustava. Zbog svoje interdisciplinarnosti, globalizacija postaje višedimenzionalni proces koji čine demografija, gospodarstvo, društvo,

kultura i politika. Svaka od spomenutih dimenzija je dimenzija za sebe, ali i ovisna o drugima. Tako na primjer, ukoliko dođe do neravnoteže u gospodarstvu jedne države, ta neravnoteža će prvo utjecati na ostale dimenzije samog lokalnog tržišta (društvo, kultura, politika, demografija), ali kasnije i na globalno tržište. U ovom radu posebna pozornost će biti dana demografiji, odnosno jednoj njenoj sastavnici – migraciji.
Demografija je disciplina u društvenim znanostima koja proučava stanovništvo. Ona promatra sastav stanovništva i njegovo kretanje. Demografski potencijali su bitan dio ukupnog razvoja jer svojim promjenama utječu na samu društvenu strukturu i društvene odnose. Ovisno o stupnju razvoja gospodarstva, stanovništvo je bitan čimbenik i u području potrošnje dobara i usluga. Elementi demografske dimenzije globalizacije su natalitet (rodnost), mortalitet (smrtnost), produženi životni vijek, promjene kulturnog identiteta i globalne migracije. Rodnost i doseljavanje predstavljaju pozitivne komponente ukupnog kretanja stanovništva (tzv. „aktiva“ demografske bilance), dok smrtnost i iseljavanje predstavljaju negativne komponente (tzv. „pasiva“ demografske bilance).
Migracija ima velik utjecaj na izravno miješanje kultura. Vrlo brzo mijenja dinamiku ukupnog kretanja jer ljudi svoja znanja, vještine i sve što ih čine odnose iz svoje u neku drugu regiju. Na taj način osiromašuju regiju iz koje su potekli.
Svrha rada je dokazati da je migracija stanovništva konstantna i u većini europskih država, a ne samo u Hrvatskoj.
Cilj rada je analizirati migraciju stanovništva Republike Hrvatske i odabranih država članica Europske unije (Republike Austrije, Republike Češke i Republike Bugarske) u razdoblju od 2006. do 2016. godine.

Ključne riječi: *globalizacija, stanovništvo, demografija, migracija.*

1. Introduction

Globalization by the end of the 20th century became a modern world process that has significantly influenced the balance of political, economic and cultural systems. It became a multidimensional process of demography, economy, society, culture and, politics. In this paper, special attention will be given to demography, or to one of its components - migration.

Demography is a discipline in social sciences studying the population. It looks at the composition of the population and its movement. Demographic potentials are an integral part of total development because their changes affect the very social structure and social relationships. Depending on the degree of economic development, the population is an important factor in the field of spending on goods and services. Elements of the demographic dimension of globalization are natality, mortality, prolonged lifespan, cultural identity change, and global migration.

Migration has a major impact on the direct mixing of cultures. It quickly changes the dynamics of the overall movement because people have their knowledge, skills, and everything they do from their relationships to another region. They thus impoverish the region they came from.

The aim of the paper is to analyze the external migration of the population of the Republic of Croatia and the selected member states of the European Union (Republic of Austria, Czech Republic and Republic of Bulgaria) from 2006 to 2016. The purpose of this paper is to prove that population migration is permanent in most European countries, and not just in Croatia.

2. Migration

Migration has a major impact on direct mixing of cultures. It quickly changes the overall movement dynamics. One of the functions of migration is "that the mobile part of the human population (the migration contingent) mechanically changes its geographic position by leaving the region of origin, proportionally to its demographic volume "refer" to the immigration region all its human potential (biological, structural, cultural, etc.)…" (Lajić, 2010, 7)

"The migration balance of the population is the difference between the number of immigrants and the number of emigrant persons from a given area or state over a given period." (Bolfek, Knežević, 2011, 96)

Thus, if there is more emigrant population than immigrant population, then the migration balance will be negative. And vice versa.

Types of migration are external and internal migration, permanent and occasional migration, and voluntary and forced migration.
In this paper, special attention will be given to external migration.

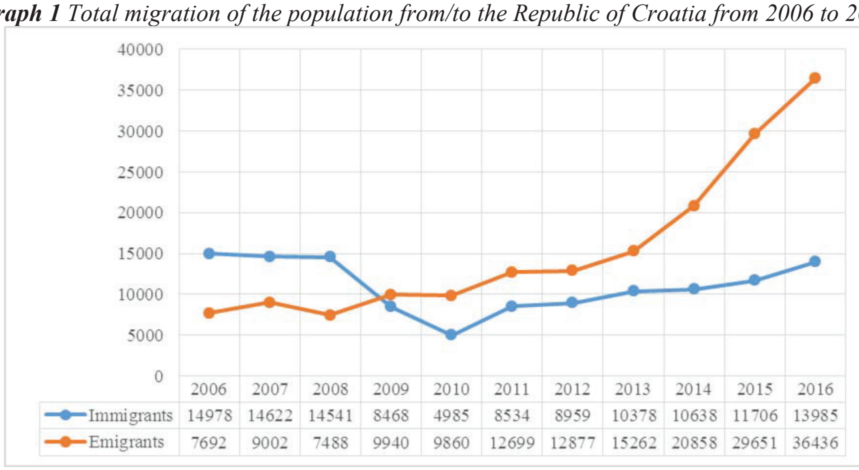
3. Migration of the population of the Republic of Croatia and selected EU Member States

In this section, will be analyzed migration of the population of the Republic of Croatian and selected the EU Member States, individually and collectively.

3.1. Migration of population of the Republic of Croatia

The migration of the population of the Republic of Croatia is constant as well as in most European countries.
In the observed period from 2006 to 2016, it is noticed that there was a lot of changes. Changes are shown in graph 1.

Graph 1 *Total migration of the population from/to the Republic of Croatia from 2006 to 2016*



Source: made by the author according to the data available at the Central Bureau of Statistics (www.dzs.hr)

It can be seen from the graph that in 2006 and 2008 there were twice as many immigrants as the emigrants, and i.e. to 1 immigrant went, 0.51 emigrant.

In 2009 there was a change of the relationship between immigrants and emigrants because the number of emigrants became greater than the number of immigrants. So in 2009, to 1 immigrant went 1.17 emigrant. In the coming years, this difference increased so in 2010 to 1 immigrant went, 1.98 emigrants. It is also interesting that in 2010 the number of the immigrant population decreased by three times compared to 2006.
In 2011, significantly increased the number of immigrants compared to the 2010 period, but it was still more emigrant population. In the following years, there was an increase of all population, immigrant, and emigrant, but it was still a considerably higher number of emigrant population.

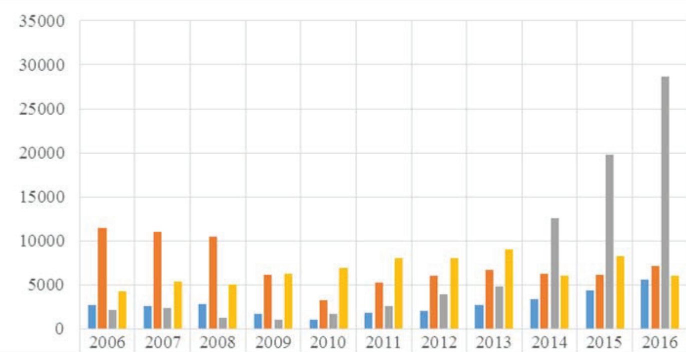
In 2015 and 2016 there was a significant increase in the emigrant population. Thus, in 2015, the number of emigrant population almost doubled compared to 2013.
When compared the number of emigrant and immigrant population in the period from 2013 to 2016, it is noticed that in 2013 to 1 immigrant went, 1.47 emigrant. In the following years, this ratio doubled or almost tripled. So in 2016 to 1 immigrant went, 2.6 emigrants.

The following graph shows the migration of the population of Republic of Croatia within Europe in the same period.

According to the data from the previous graph (graph 1) it can be seen that in the period from 2006 to 2008 the Republic of Croatia recorded a positive migration balance, while in the period from 2009 to 2016 recorded a negative migration balance.

It is similar to the data that record migration within Europe (Graph 2). It is interesting to note that an increasing number of emigrants and immigrants went or came from non-EU countries.

Graph 2 *The migration of the Croatian population within Europe in the period from 2006 to 2016*



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Immigrated in the EU	2687	2579	2820	1739	997	1818	2009	2644	3343	4382	5555
Immigrated in other European countries	11479	10985	10508	6081	3281	5225	6050	6717	6197	6133	7077
Emigrated from the EU	2175	2307	1299	982	1697	2633	3877	4756	12603	19752	28659
Emigrated from other European countries	4243	5353	5048	6246	6864	8010	7981	9067	6062	8267	5983

Source: made by the author according to the data available at the Central Bureau of Statistics (www.dzs.hr)

In the period from 2006 to 2016, it is noticed that a larger number of immigrant populations came from other European countries than in the EU. Thus, in one of the observed year, to 1 immigrant in the EU, there were 4.27 immigrants in other European countries. In 2011, to 1 immigrant in the EU there were 2.87 immigrants in the other European countries, and in 2016 to 1 immigrants in the EU, there were only 1.27 immigrants in other European countries.

If the ratio put the number of emigrant population from the EU and the number of emigrant population from other European countries, it can see a similar trend until 2013. Namely, in 2006 to 1 emigrant from the EU there was 1.95 emigrant from the other European countries. In the other observed years, this difference greatly increased so in 2009 to 1 emigrant from the EU, there was even 6.36 emigrant from other European countries.

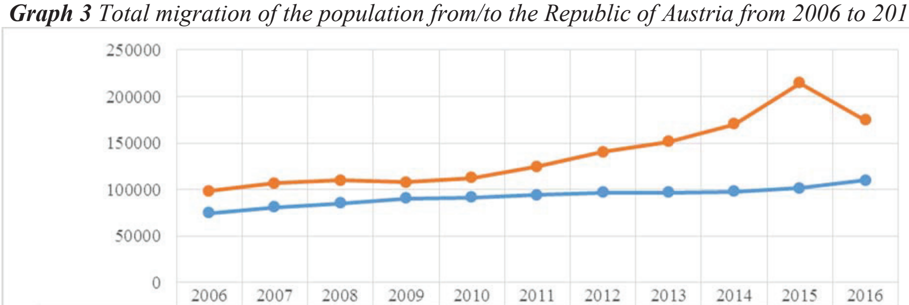
In 2014 there were significant changes and more people emigrated from the EU countries than from other European countries. So in 2014, to 1 emigrant from the EU, there was only 0.48 emigrant from other European countries. In 2015, this ratio was 1: 0.42 emigrant, and in 2016 it was 1: 0.21 emigrant.

3.2. Migration population of the Republic of Austria

The Republic of Austria has constantly recorded migrations. It should be noted that the number of immigrants exceeded the number of emigrants.

The following graph 3 shows the total migration of the population to and from the Republic of Austria in the period from 2006 to 2016.

Graph 3 *Total migration of the population from/to the Republic of Austria from 2006 to 2016*



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Emigrants	74432	81000	85063	90470	91375	93914	96561	96552	97791	101343	109634
Immigrants	98535	106470	109713	107523	112691	124619	140358	151280	170115	214410	174310

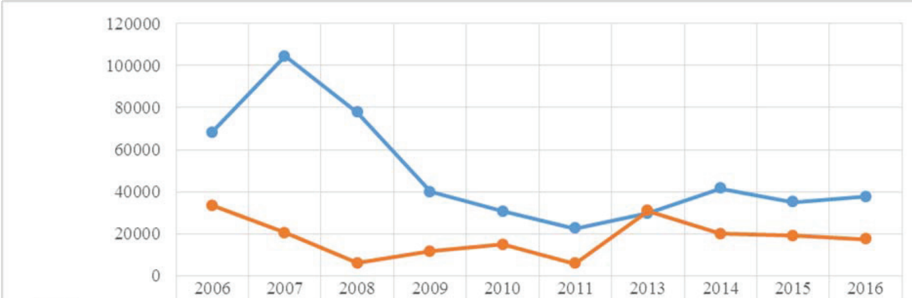
Source: author made the data available at Statistics Austria (www.statistik.at), Demographics Jahrbuch 2014 and 2017, Statistik Austria, Wien

According to data from graph 3, it is concluded that the number of the immigrant population compared to the number of emigrant population was higher over the entire observed period. This means that Austria recorded a positive migration balance. Thus, in 2006 to 1 immigrant went 0.76 emigrants. In 2009 to 1 immigrant went 0.84 emigrants. In the following years, there was a higher difference between the immigrant and emigrant population. Thus in 2014 to 1 immigrant went 0.57 emigrant, and in 2015 this ratio is even higher when to 1 immigrant went 0.47 emigrant.

3.3. Migration of population of the Czech Republic

The Czech Republic is also constantly recording the migration of its population, but as well as most European Union countries, there are more immigrants than emigrants.
Below is a graph showing the migration of the population in and out of the Czech Republic.

Graph 4 *Total migration of the population from/to the Czech Republic from 2006 to 2016*



	2006	2007	2008	2009	2010	2011	2013	2014	2015	2016
Immigrants	68183	104445	77817	39973	30515	22590	29579	41625	34922	37503
Emigrants	33463	20500	6027	11629	14867	5701	30876	19964	18945	17439

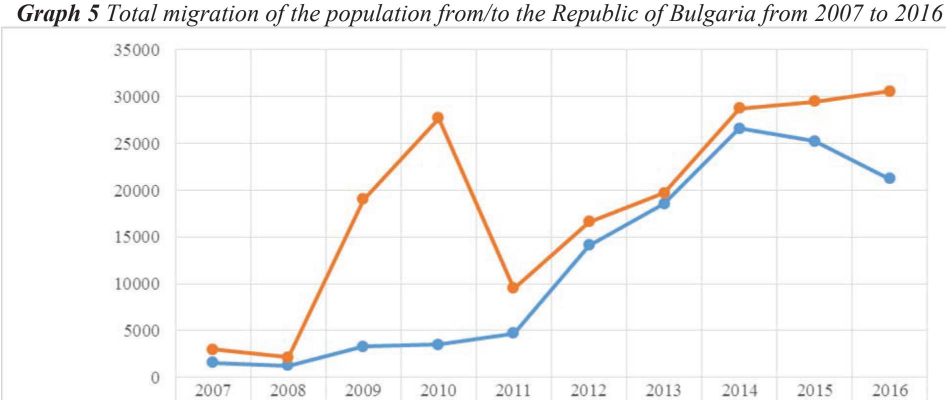
Source: author made the data available at Czech Statistical Office (www.czso.cz), Statistical Yearbook of the Czech Republic 2016, External migration by citizenship

According to data from the graph it can be seen that during the whole observed period there was a significantly larger number of immigrant population than the displaced population. Thus, in 2006 to 1 immigrant went 0.49 emigrant. In 2007 there was an incredible increase in the number of immigrants, so to 1 immigrant went 0.2 emigrants, and in 2008 to 1 immigrant went only 0.08 emigrant. Since this year, the immigrant population recorded much lower growth. In 2011 there was a decline of the immigrant and emigrant population. Then to 1 immigrant went 0.25 emigrant. Only in 2013, to 1 immigrant went 1.04 emigrant. Looking at the graph it is noticed that the highest immigration to the Czech Republic was until 2008, and the emigration in 2006 and 2013.

3.4. Migration of population of the Republic of Bulgaria

When it comes to migration of the population of the Republic of Bulgaria, then the situation is different. Namely, it is the only observed member state of the EU that recorded a negative migration balance in the observed period. This can be seen from graph 5.

Graph 5 *Total migration of the population from/to the Republic of Bulgaria from 2007 to 2016*



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Immigrants	1561	1236	3310	3518	4722	14103	18570	26615	25223	21241
Emigrants	2958	2112	19039	27708	9517	16615	19678	28727	29470	30570

Source: author made by the data available at National Statistical Institute (www.nsi.bg), Infostat - Demographic and Social statistics, External migration, Total for the country – 2007-2016

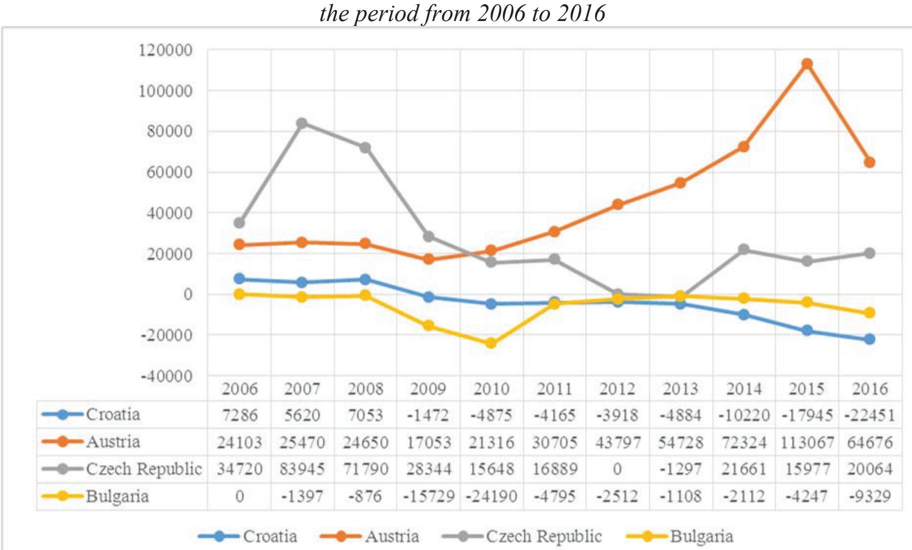
According to data from the graph it can be seen that in the whole period there were more emigrants than immigrants. In 2007 to 1 immigrant went 1.89 emigrants. Furthermore, in 2009 significantly increased the number of emigrant population when to 1 immigrant went 5.75 emigrants, and in 2010 to 1 immigrant went even 7.88 emigrants. Then in 2011, to 1 immigrant went 2.02 emigrant. In the following years there was a significant increase in both directions, i.e. the number of immigrants and the number of immigrants increased, but the ratio was no longer as in previous years.

Looking at the graph it noticed that in 2016 the immigrant population increased by 1360% in comparison to 2007, and the emigrant population increased by 1033% in the same period.

3.5. The migration balance of the Republic of Croatia and the selected member states of European Union

The migration balance of the Republic of Croatia and the selected member states of the European Union (graph 6), namely the Republic of Austria, the Czech Republic and the Republic of Bulgaria, shows significant differences in the number of emigrant and immigrant population.

Graph 6 *The migration balance of the Republic of Croatia and the selected EU member states in the period from 2006 to 2016*



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Croatia	7286	5620	7053	-1472	-4875	-4165	-3918	-4884	-10220	-17945	-22451
Austria	24103	25470	24650	17053	21316	30705	43797	54728	72324	113067	64676
Czech Republic	34720	83945	71790	28344	15648	16889	0	-1297	21661	15977	20064
Bulgaria	0	-1397	-876	-15729	-24190	-4795	-2512	-1108	-2112	-4247	-9329

Source: made by the author according to the data available at the Central Bureau of Statistics (www.dzs.hr), Statistics Austria (www.statistik.at), Czech Statistical Office (www.czso.cz) and National Statistical Institute (www.nsi.bg)

The migration balance of the Czech Republic shows that during the observed period, the number of immigrant population was greater than the number of emigrant population, except in 2013. The largest positive migration balance recorded in 2007 when it was 83,945 and in 2008 when it was 71,790.

The positive migration balance also recorded in the Republic of Austria over the entire observed period. Its migration balance reached its highest value in 2015 when it was 113.067.

The Republic of Bulgaria recorded negative migration balance over the entire observed period, i.e. more people emigrated from Bulgaria than they immigrated to Bulgaria. The largest negative migration balance recorded in 2010 and it was even -24,190.

When it comes to the Republic of Croatia, the situation is different. Namely, during the period, Croatia recorded both, positive and negative values of migration balance. Thus, in the period from 2006 to 2008 recorded a positive migration balance, and since then constantly recorded a negative migration balance. The largest negative migration balance was recorded in 2016 when it was even -22.451.

4. Conclusion

The analysis showed that migration is a constant in all the observed countries (Croatia, Austria, Czech Republic and Bulgaria).
In the Republic of Croatia in the period from 2006 to 2008 there were more immigrants than emigrant population. After 2008 until 2016 the number of emigrant population increased, i.e., since then, Croatia recorded a negative migration balance.
Austria during the entire observed period recorded a positive net migration, that constantly more people moving in than moving out.
In the Czech Republic, as well as in Austria, almost throughout the study period is more people immigrated than emigrated, except in 2013 when it recorded a negative migration balance because then was a slightly larger number of emigrants than immigrants.
Bulgaria is the only observed country that recorded a negative migration balance throughout the period.

REFERENCES

Bolfek, B.; Knežević, S. (2011) ***Međunarodna ekonomija***, Veleučilište u Slavonskom Brodu, Slavonski Brod

Central Bureau of Statistics (www.dzs.hr), Statistical Yearbook 2006-2016

Czech Statistical Office (www.czso.cz), Statistical Yearbook of the Czech Republic 2016, External migration by citizenship

Kulaš, A. (2015) ***Migracija građana Republike Hrvatske na europsko tržište rada***, Ekonomski fakultet u Osijeku, Osijek (doktorska disertacija)

Lajić, I. (ur.) (2010) ***Migracije i regionalni razvoj Hrvatske***, Institut za migracije i narodnosti, Zagreb

National Statistical Institute (www.nsi.bg), Infostat - Demographic and Social statistics, External migration, Total for the country – 2007-2016

Statistics Austria (www.statistik.at), Demographisches Jahrbuch 2014 and 2017, Statistik Austria, Wien

Ružica Lončarić PhD, Full Professor
Faculty of agriculture/Department for Agroeconomics
Vladimira Preloga 1, 31000 Osijek, Croatia
Phone: 031 554 871 Fax: 031 554 853
E-mail address: rloncaric@pfos.hr

Tihana Sudarić PhD, Associated Professor
Faculty of agriculture/Department for Agroeconomics
Vladimira Preloga 1, 31000 Osijek, Croatia
Phone: 031 554 854 Fax: 031 554 853
E-mail address: tsudaric@pfos.hr

Jadranka Deže PhD, Associated Professor
Faculty of Agriculture/Department for Agroeconomics
Vladimira Preloga 1, 31000 Osijek, Croatia
Phone: 031 554 850 Fax: 031 554 853
E-mail address: jdeze@pfos.hr

TOMATO MARKET POTENTIAL IN REPUBLIC OF CROATIA IN TERMS OF GLOBAL ECONOMY

POTENCIJAL TRŽIŠTA RAJČICE U REPUBLICI HRVATSKOJ U UVETIMA GLOBALNE EKONOMIJE

ABSTRACT

Croatia does not produce enough vegetables for its needs. Despite favorable agro-ecological conditions for the production of most vegetable species, the current production of vegetables is insufficient and usually price uncompetitive compared to imported vegetables. On the other hand, export of domestic fresh and processed vegetables is small in quantity and value. Inadequate production is the result of fragmented areas, unregulated manufacturing infrastructure, lack of heating and irrigation systems and inadequate storage facilities. Vegetables in the Republic of Croatia is produced on about 40.116 ha, which is 4,7 % of utilized agricultural area. The process of restructuring the entire economy in the 1990s was parallel to the process of opening the market, which resulted in the growth of total demand and increased demand for vegetables and ultimately by the growth of imports. Tomato production in Croatia follows negative trends in vegetable production. The aim of the paper was to present the trends in production and foreign trade of tomato in the Republic of Croatia based on analyzed data on the production of vegetables and tomatoes and to provide suggestions for improving the situation in current terms of global market (joining EU, loss of former markets etc.). The Food and Agriculture Organization Statistical Database (FAOStat) is used in the paper on market indicators in the European Union and the Republic of Croatia. In last 10 years, production of tomatoes oscillates a lot and amounts 30.355 t on the 575 ha in average. In 2013 exports of tomatoes participate less than 5 % in imported amounts. Croatia has the potential to be competitive on European market, but it is necessary to increase the average production area, encourage application of irrigation and drainage systems, increase the share of tomato production in greenhouses and to invest more in additional training of producers.

Key words: *tomato, market, Republic of Croatia, production, global economy.*

SAŽETAK

Hrvatska ne proizvodi dovoljno povrća za svoje potrebe. Usprkos povoljnim agro-ekološkim uvjetima za proizvodnju većine povrtnih kultura, sadašnja proizvodnja povrća je nedovoljna i uglavnom cjenovno nekonkurentna u usporedbi s uvoznim povrćem. S druge strane, izvoz domaćeg svježeg i prerađenog povrća količinski i vrijednosno je minoran. Neadekvatna proizvodnja rezultat je rascjepkanih poljoprivrednih površina, neregulirane prerađivačke infrastrukture, nedovoljnih kapaciteta za navodnjavanje te kvalitetno čuvanje povrća. Proces restrukturiranja cjelokupnog gospodarstva devedesetih godina, događao se paralelno s procesom otvaranja tržišta, što je rezultiralo s porastom ukupne potražnje, uključujući i potražnju za povrćem i posljedično s povećanjem uvoza. Povrće se u Republici Hrvaskoj proizvodi na oko 40.116 ha, što iznosi oko 4,7 % obradivih površina. Proizvodnja rajčice slijedi negativne trendove u proizvodnji povrća. Cilj rada je prezentirati trendove u proizvodnji i vanjskoj trgovini rajčice na temelju analiziranih podataka o proizvodnji povrća i proizvonji rajčice te ponuditi prijedloge za poboljšanje situacije u postojećim uvjetima globalnog tržišta (pridruživanje EU, gubitak tradicionalnih tržišta itd.). Za analizu tržišnih indikatora u Europskoj uniji i Republici Hrvatskoj korištena je FAO baza podataka (FAOStat). Zadnjih desetak godina proizvodnja rajčice značajno oscilira i iznosi 30.355 t koje se proizvode na 575 ha u posjeku. U 2013. godini izvoz rajčice sudjeluje s manje od 5% u uvezenim količinama rajčice. Hrvatska ima potencijal biti konkurentna na europskom tržištu, ali je neophodno povećati prosječne proizvodne površine uz povećanje primjene sustava navodnjavanja i odvodnje, povećanje udjela proizvodnje u zaštićenim prostorima te ulaganjem u dodatno usavršavanje proizvođača.

Ključne riječi: *rajčica, tržište, Republika Hrvatska, proizvodnja, globalna ekonomija.*

1. Introduction

The EU fruit and fresh vegetable sector is polarised between a few Member States responsible for the largest proportions of production, trading and processing, and several others that account individually for almost negligible volumes. Two thirds of the EU-28 population consume at least one portion of fruit and vegetables a day. According to the most recent (2013) farm structure survey, almost 920 000 holdings grew fresh vegetables, which was 12.4 % of all European farms with an arable area. Nearly half (49.4 %) of those holdings were in just three countries: Romania (22.1 %), Poland (15.4 %) and Spain (11.9 %). By contrast, 15 countries accounted for shares of less than 1 % each. Among individual vegetable crops, tomatoes occupied the largest area, accounting for 11.7 % of the total vegetable area. The areas used to grow tomatoes were predominately in Italy (41.9 %) and Spain (22.8 %), followed at a distance by Romania (9.5 %), Portugal (7.3 %) and Greece (6.7 %). For production, the pattern was mostly the same: Italy and Spain were the leading countries, harvesting 36.3 % and 27.4 % of all EU tomatoes respectively. Portugal (8.0 %) and Greece (6.2 %) were third and fourth (De Cicco, 2018.).

The Republic of Croatia has significant comparative advantages for this production and it is thanks to the climatic diversity of Croatia, which is diverse, possible production open-air vegetables almost throughout the year (Matotan, 2008).

Changes in vegetable production in Croatia are influenced by many factors such as the existing level, structure and intensity of production, application of newer technical and technological achievements, level of producer's education and the country's overall agricultural strategies (Grgic et al., 2016.).

Despite favourable agro-ecological conditions for the production of most vegetable species, the present production of vegetables is insufficient and is usually priced uncompetitive with imports vegetables and the export of domestic fresh and processed vegetables is small in quantity and value. Inadequate production for the Croatian market is the result of fragmented areas, disorganized manufacturing infrastructure, lack of heating and irrigation systems as well as frost and frost protection systems and inadequate storage facilities (Loncaric et al., 2018.).

The largest share of vegetables in Croatia is produced on family farms (70 %), and only 3 % relates to production in protected areas (Đulabić, 2017).

Vegetable in Croatia is growing on 40.116 ha (4,7 % of arable land), while tomato production is conducting on only 370 ha and amounts 30.707 t in 2016 (FAOStat). In last recording data year for trade (2013), export/import ratio was 4,8 % (590 export, 12.278 import respectively).

The aim of the paper was to present the trends in production and foreign trade of tomato in the Republic of Croatia based on analyzed data on the production of vegetables and tomatoes and to provide suggestions for improving the situation in current terms of global market (joining EU, loss of former markets etc.).

2. Material and methods

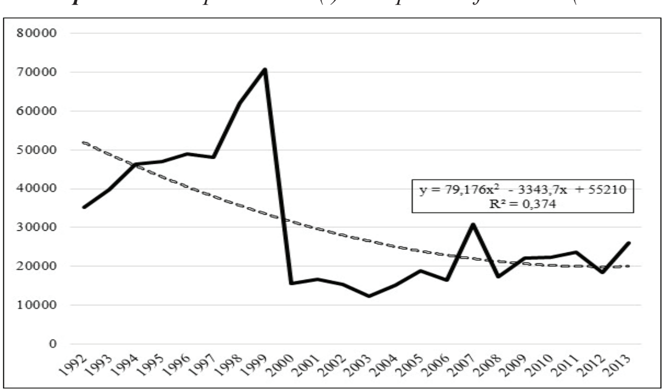
The paper mainly uses data from FAOSTAT, EUROSTAT and CBS (Croatian Bureau of Statistics) for the arable land, yields, prices, imports and exports of tomatoes in the European Union and the Republic of Croatia for the period from 1992 to 2013. The longest series was not possible to analyze for correlation since there is no data for the Republic of Croatia before 1992 and after 2013 because the same database has no data on import-export exchanges. Due to correlation it was necessary to provide complete data for all categories in the complete period. Results of related scientific papers is used for comparing the data.

The method of structural and chronological analysis of observed data as well as mathematical statistical methods (minimum, maximum, correlation, standard deviation and trend) was used. The obtained data are combined by the synthesis method.

3. Results and discussion

In the observed 22-year period (1992- 2013), the vegetable area harvested was 1.227 ha in average, 1.460 ha in the first half of the period (1992-2002) and 994 ha in the second half of the period. In the same time, tomato production raised from 1992-1999, when it reached 70.816 t and after that production stagnated on 22.300 t in average (Graph 1).

Graph 1 *Tomato production (t) in Republic of Croatia (1992-2013)*



Source: FAOStat

In Table 1, indicators of tomato production in Croatia and the EU are presented. A clear deviation in all observed factors is visible, which indicates the instability of tomatoes production and the lagging behind from EU in yield (25,41 t/ha in Croatia and 49,54 t/ha in the EU). The average area harvested is 2.227 ha and the production is 30.416 t in average. Croatia participate 5,9 % in the area harvested and 0,1 % in EU tomato production in the observed period.

Table 1 *Comparative indicators of area harvested, yields and production of tomatoes in European Union and Croatia (1992-2013)*

	European union			Republic of Croatia		
	Area harvested (ha)	Yield (t/ha)	Production (t)	Area harvested (ha)	Yield (t/ha)	Production (t)
Max	395.811	59,38	19.837.240	6.408	44,65	70.816
Min	259.044	39,12	14.488.534	448	8,17	12.320
Average	339.290	49,54	16.612.914	2.227	25,41	30.416
SD	38.650	6,48	1.368.251	2.282	13,18	1.852

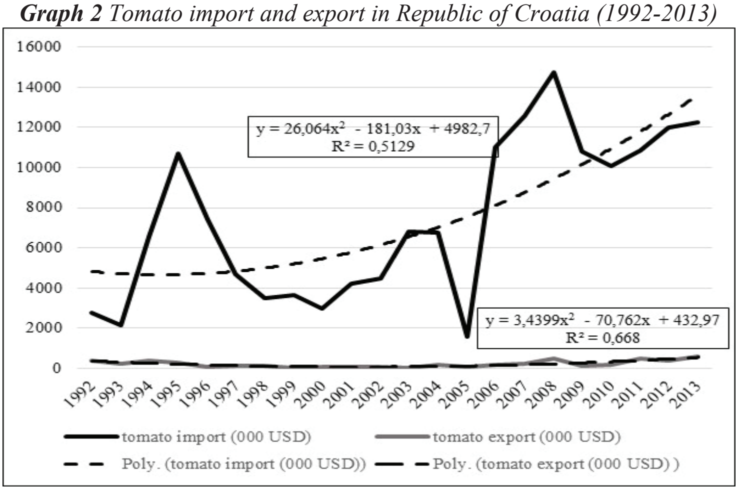
Source: FAOStat

When it comes to the vegetable structure, tomato production is on first place, followed by cabbage, onion, watermelon and bell pepper production.

The unfavourable trend in production is also reflected in the negative tomato foreign trade where the export participates with an average of only 2,87 % of tomato exports as average 1992-2013 (Graph 2).

If this trend continues, using the formula with the most suitable coefficient of correlation (R^2), then, for example, production in the year 2020 would amount only 3.769 t, export only 359 and import would increase to 14.720 thousand of USD.

Graph 2 *Tomato import and export in Republic of Croatia (1992-2013)*



Source: FAOStat

Jámbor and Ehret-Berczi (2016) claim that joining of Hungary to the EU has affected trade in agricultural and food products, including the vegetable sector. Similarly, Lončarić et al. (2017) suggesting that export and import of Croatian agricultural products to EU countries significantly increased in 2014 and 2015 compared to the period before EU accession. At the same time, trade with CEFTA countries recorded opposite trends. The decreasing of CEFTA trade happened after

2013 due to the effect of trade shifting into the countries of more favourable terms of trade - EU. Similarly, in Slovenia foreign trade with vegetables after the accession to EU has increased on the import as well as the export side. The gap between the import and export has increased after 2004 (Pintar and Zagorc, 2010).

Correlations between some foreign trade and agricultural production components for period 1992-2013 in EU and Republic of Croatia is shown in table 2. There are quite strong ($p < 0.05$ **) and very strong correlation connections ($p<0.01$ *) between the observed factors. Some connections are logical and easy to understand (eg, the relationship between area harvested, yield and production in the EU and Croatia - HR), while some are indicative interesting. There are correlation connections (**) between EU vegetable export and import, EU tomato export and import, EU vegetable export and Croatia tomato import, EU tomato export and Croatia tomato import. These connections imply improvement of foreign trade relation in EU and Croatia.

This situation was predicted by Štulec et al. (2014) who said that increase in exports to the EU will happen as well as an increase in imports, an increase in the deficit of foreign trade with Member States in the short term and re-balancing of trade balance in the long term. They also said that with Croatia entering the EU, Croatian trade agreements with the South Eastern European countries no longer apply due to its simultaneous exit from CEFTA.

The similar results were found by Čudina and Sušić (2013), but related to agricultural and food products, who claim that the accession of the Croatian market to the EU leads to the import of cheaper food products, but also to the loss of the previous preferential markets compensated by higher exports to the countries members and third countries.

__Table 2__ Correlations between some foreign trade and agricultural production components for period 1992-2013 in EU and Republic of Croatia

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1																		
2	** 0,96	1																	
3	** -0,59	* -0,51	1																
4	** -0,85	** -0,85	** 0,70	1															
5	** 0,76	** 0,71	** -0,87	** -0,82	1														
6	ns	ns	ns	ns	ns	1													
7	ns	ns	ns	ns	ns	ns	1												
8	** 0,88	** 0,80	** -0,81	** -0,88	** 0,92	ns	ns	1											
9	** 0,89	** 0,82	** -0,82	** -0,88	** 0,91	ns	ns	** 0,99	1										
10	ns	ns	** 0,79	* 0,55	** -0,78	* -0,53	ns	** -0,60	* 0,57	1									
11	ns	ns	ns	ns	ns	ns	ns	ns	ns	* 0,52	1								
12	** 0,74	** 0,69	** -0,76	** -0,77	** 0,84	ns	ns	** 0,89	** 0,89	** -0,62	ns	1							
13	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	* 0,54	1						
14	ns	ns	** 0,80	** 0,66	** -0,80	ns	ns	** -0,68	** -0,65	** 0,88	* 0,46	** -0,61	ns	1					
15	** 0,62	* 0,57	** -0,83	** -0,76	** 0,89	ns	ns	** 0,78	** 0,76	** -0,82	ns	** 0,64	ns	** -0,91	1				
16	ns	ns	** 0,65	* 0,54	** -0,62	ns	ns	* -0,51	* 0,48	** 0,77	ns	* -0,45	ns	** 0,95	** -0,77	1			
17	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	1		
18	** 0,74	** 0,69	** -0,67	** 0,72	** 0,63	ns	* 0,52	** 0,79	** 0,81	ns	ns	** 0,85	* 0,56	ns	* 0,49	ns	ns	1	
19	** 0,67	** 0,72	ns	** 0,58	ns	* -0,49	ns	* 0,49	* 0,52	ns	ns	ns	ns	ns	ns	ns	ns	** 0,58	1

1 - EU vegetable imports; 2 - EU vegetable export; 3 - EU vegetable arable land; 4 - EU tomato area; 5 - EU tomato yield; 6 - EU tomato production; 7 - EU tomato price; 8 - EU tomato import; 9 – EU tomato export, 10 - RH arable land; 11 RH vegetable area; 12 - RH vegetable import; 13 - RH vegetable exports, 14 - RH tomato area; 15 - RH tomato yield; 16 – tomato production; 17 - RH tomato price; 18 - RH tomato import; 19 - RH tomato export

** p<0,01, r>0,0,575; * p<0,05, r>0,456; N=19; df=N-2

Source: FAOStat

Negative correlation of Croatian area harvested and yields are result of enlargement of production and application of certain modern technical-technological production processes that followed the increase of yield and productivity increase

4. Conclusion

The situation on the Croatian vegetable and tomato market is mostly unfavourable. It is indicated by stagnation in tomato production, unfavourable export/import ratio and legging behind tomato productivity compared to EU average. On the other hand, negative correlation of Croatian tomato area harvested (decreasing or stagnating) and yields (slightly increasing) are result of enlargement of production and application of certain modern technical-technological production processes that followed the increase of yield and productivity increase. Increasing of foreign trade with EU member states, and decreasing of foreign trade with CEFTA countries is direct product of EU accession and trade shifting to the more favorable terms of trade.

Croatia has the potential to be competitive on European market, but it is necessary to increase the average production area, encourage application of irrigation and drainage systems, to increase the share of tomato production in greenhouses and to invest more in additional training of producers.

REFERENCES

Čudina, A., Sušić, G. (2013). ***The impact of Croatia's accession to the EU on economic relations with the CEFTA countries***. Ekonomski pregled. 64 (4), pp. 376-396.

De Cicco, A. (2018): ***The fruit and vegetable sector in the EU - a statistical overview***. Eurostat. http://ec.europa.eu/eurostat/statistics-explained/index.php (accessed 26 March, 2018)

Đulabić, I. (2017). ***Trend proizvodnje povrća u RH***. Završni rad. Sveučilište u Splitu. Ekonomski fakultet. Split.: 48. https://repozitorij.efst.unist.hr/islandora (accessed 2 November 2017)

FaoStat (2017). http://faostat.fao.org (accessed 25 November 2018)

Grgić, I. et al. (2016): ***Proizvodnja povrća u Republici Hrvatskoj: stanje i mogućnosti***. Glasnik zaštite bilja, no. 5, pp. 14-23

Jámbor, A. and Ehret-Berczi, I. (2016). ***Comparative advantages and EU accession: the case of the NMS vegetables sector***. Acta Hort. (ISHS) 1132, pp. 65-72

Lončarić, R. et al. (2017). ***Joining EU: Reflections on Croatian food foreign trade relations***. European Scientific Journal. May 2017./Special edition, pp. 1-12

Lončarić, R. et al. (2018): ***Trendovi na tržištu mrkve u Republici Hrvatskoj***, 53. hrvatski i 13. međunarodni simpozij agronoma, Zbornik radova, Poljoprivredni fakultet u Osijeku, Vodice, February 28-22, 2018, pp. 133-151

Matotan, Z. (2004.): ***Suvremena proizvodnja povrća***. Nakladni zavod Globus, Zagreb.

Pintar, M. and Zagorc, B. (2010): ***Vegetable market in Slovenia before and after the accession to the European union***. Journal Central European Agriculture 11 (3), pp. 325-333.

Štulec et al. (2014): ***Impact of Croatian EU accession on its foreign trade and customs system.*** Ekonomski vjesnik 2 (2014), pp. 381-392

Martina Pezer, MA
Institute of Public Finance
Smičiklasova 21, 10000 Zagreb, Croatia
Phone: +385 1 2226 803 Fax: +385 1 4819 365
E-mail address: martina.pezer@ijf.hr

Slavko Bezeredi, univ. spec. oec.
Institute of Public Finance
Smičiklasova 21, 10000 Zagreb, Croatia
Phone: +385 1 2226 803 Fax: +385 1 4819 365
E-mail address: slavko.bezeredi@ijf.hr

Chrysa Leventi, PhD
Institute for Social and Economic Research
University of Essex, Wivenhoe Park, Colchester, Essex, CO4 3SQ UK
E-mail address: cleventi@essex.ac.uk

THE DISTRIBUTIONAL IMPACT OF LOCAL SOCIAL BENEFITS OF ZAGREB, SPLIT, RIJEKA AND OSIJEK

DISTRIBUCIJSKI UČINAK LOKALNIH SOCIJALNIH NAKNADA U ZAGREBU, SPLITU, RIJECI I OSIJEKU

ABSTRACT

All government levels in Croatia provide social protection benefits. Other thanthe central level, benefits are also provided atthe local and regionallevel: by counties, cities and municipalities. According to Šućur et al. (2016), more than0.4% of GDP is spent on social benefits provided at the local government level. Therefore, it is important to include local government benefitswhen assessing the overall effectiveness of social benefits.
The aim of thispaper is to analyse the distributional impact of five types of local social benefits in the four major Croatian cities – Zagreb, Split, Rijeka and Osijek – which is a first analysis ofthis kind for Croatian cities. The year of analysis is 2017 and the benefits under consideration are compensation for housing costs, old-age income supplement,grant for a newborn child, kindergarten subsidy and city transport subsidy.A comparative analysis of benefitsand their generosity has been conducted; theirincome redistribution and poverty reduction effectshave also been investigated. The researchmakes use ofmiCROmod – the Croatian tax-benefit microsimulation model -which is based on data fromthe Income and Living Conditions Survey, collected by the Croatian Bureau of Statistics.Hypothetical households,which differ in income levels, structure and age of members, have also been used in the analysis.
Results reveal that, in all local benefit systems considered, the most significant resources are devoted to the city transport subsidy and the kindergarten subsidy. If we compare the per capita values, the most generous benefits are found in Zagreb, followed by Rijeka, Osijek and Split.Also, social protection benefits of Zagreband Rijekaare the most redistributive, achievingthe highest poverty headcount reduction.

Key words: *miCROmod, local self-government, social protection benefits, Croatia, public finance.*

SAŽETAK

Naknade socijalne zaštite pružaju se na svim razinama državne vlasti u Hrvatskoj. Uz središnju državu, naknade pružaju jedinice područne i lokalne samouprave: županije, gradovi i općine. Šućuri sur. (2016.) navode da se na programe socijalne zaštite jedinica lokalne samouprave troši više od 0,4% BDP-a. Stoga se prilikom procjene učinkovitosti sustava socijalne zaštite nameće potreba uključivanja lokalnih naknada.
Cilj istraživanja je analizirati distribucijski učinak za pet vrsta lokalnih socijalnih naknada u četiri najveća hrvatska grada – Zagrebu, Splitu, Rijeci i Osijeku – što je prva takva analiza za hrvatske gradove. Godina analize je 2017., a promatraju se naknada za stanovanje, novčana pomoć umirovljenicima, pomoć za novorođeno dijete, subvencija cijene predškolskih programa i subvencija javnog prijevoza. Provodi se komparativna analiza izdašnosti naknada, utjecaja na raspodjelu dohotka i stopu siromaštva. U analizi se koristi miCROmod – hrvatski mikrosimulacijski model poreza i socijalnih naknada - koji se temelji na podatcima Ankete o dohotku stanovništva prikupljenoj od strane Državnog zavoda za statistiku. Osim toga, analiziraju se i hipotetska kućanstva koja se razlikuju po razini dohotka, strukturi i dobi članova.
Rezultati pokazuju da su među promatranim naknadama najznačajniji izdatci subvencija javnog prijevoza i subvencija predškolskih programa. Uspoređujemo li vrijednosti po glavi stanovnika, najizdašnije naknade pružaju se u Zagrebu, a slijede Rijeka, Osijek i Split. Također, naknade socijalne zaštite koje pružaju Zagreb i Rijeka imaju najveći utjecaj na smanjenje stopa siromaštva.

Ključne riječi: *miCROmod, lokalna samouprava, naknade socijalne zaštite, Hrvatska, javne financije.*

1. Introduction

Social protection benefits, as defined by ESSPROS (2018), are transfers in cash or in kind provided by governments,which are intended to protect households and individuals from various risks or financial burdens in case of disability, sickness, old age, families with children, unemployment, social exclusion and similar. Their important objectives and significant budget share are not onlythe subjectof various academic studies, but also of headlines in newspapers. The aim of this research is to illustrate their variety and assess their anti-poverty effectiveness at the local level in Croatia. In particular, we set out to investigatefivesocial benefits ofthe four largestCroatian cities: Zagreb, Split, Rijeka and Osijek.

The main methods of our research are microsimulation techniques. These are widely used in the European Union (EU) and constitutean important bridge between the academic world and policymakers, providing guidelines for budget decisions, tax policies, social benefits reforms etc. Extensive research has been conducted by using microsimulation tools in the analysis of the distributional impact of,usually,central governments' cash benefits. Some recent examples of microsimulation studies looking at the distributional impact of different types of benefits include Browne and Immervoll (2017), Figari et al. (2013) and Popova (2016).One analysis that also covers in-kind public benefits, and is thus relatively comparable to our paper, is the work of Paulus et al. (2010), in which the authors compare the size and incidence of in-kind benefits (housing, education and health care) for five European countries.

Moving to Croatia, Šućur et al. (2016) conducted an extensive researchofsocial benefits at all government levels,analysingthestructure, beneficiaries and expenses of these benefits. They found thatfamily benefits have the highest expenditure share, followed by old-age and social exclusion benefits; although highly heterogeneous, local benefits do complement the benefits of central government. The authors also pointed outthe fact that there is a lack of data availability at the lowest government levels and that the economically developed parts of Croatia provide more generous benefits. A major research project on Croatian poverty mapping has been done by the World Bank in cooperation with Croatian governmentinstitutions. They identified a territorial dimension of poverty and highlighted that the highest risk of poverty is present in the east and southeast regions of the country (World Bank, 2016).Motivated by the findings of Šućur et al. (2016) and the World Bank (2016), we have simulatedsocial benefits in several Croatian cities and analysed their impact on income poverty levels.

2. Methods, data, assumptions and definitions

The research is based on *miCROmod* – the Croatian tax-benefit microsimulation model. A microsimulation model enables the simulation of taxes, social insurance contributions and socialbenefits, thus allowing researchers to predict and analyse the effects of fiscal instruments on thedistribution of disposable income, work incentives, as well as on budgetary revenue and expenditure (Urban, 2016). The final result of the simulation is individual disposable income for all units in the sample. The model miCROmod is based on EUROMOD (Sutherland and Figari, 2013), the tax-benefit microsimulation model for the EU, but with additional options, which include simulation of local benefits.

The input dataset (individual data for a representative sample of the population) for the model is based on the Croatian Income and Living Conditions Survey (*Anketa o dohotkustanovništva, ADS*) of the Croatian Bureau of Statistics. The policies taken into consideration are those valid in the year 2017 (on 30 June) with ADS data from 2015. Survey incomes have been updated from the micro-data income reference period (2014) to the target period (2017) using appropriate indexes for each income source, such as administrative or survey statistics. Detailed information on the scope of simulations and updating factors can be found in Urban et al. (2017, 2018). Due to lack of residence data, we have simulated the local benefits of each city on the entire sample of microdata and assumed that all surveyed individuals reside in the analysed city. This assumption allows us to isolate the distributional impact of local benefit policies from that of socio-demographic and other characteristics of each city.

Household disposable income is the sum of individual gross wages, central government benefits and local benefits minus social insurance contributions, taxes and surtax. Household disposable incomes have beenequivalised using the OECD modified scale, i.e. weighting factors have been attributed to each individual: 1 for the head of household, 0.5 for each subsequent member older than 14 and 0.3 for each child younger than 14 years of age. For the purposes of our poverty analysis, we have defined poor as thoseliving in households with equivalised disposable income below 60% of median.We have assumed that all entitled citizens actually take up the benefits in full (e.g.,all citizens entitled to reduced fares for public transport buy their subsidised tickets every month), and that there is no tax evasion.

Due to the complex interactions among fiscal instruments, for asimple illustration of the simulated local benefits we havemadeuse of*hypothetical households*. These represent common households (HH) differing in income levels, structure and age of members. Two types of hypothetical householdshave beenanalysed: (a) two adults and two children (aged 4 and 7) and (b) two pensioners (aged 65 and 67). We have assumed that employed adults in household (a) work full time and that their gross wages are equal. Wehave also assumed equal pension of members in household (b). Individual income is the gross wage or pension, while the household income is the sum of members' individual incomes.

3. Observed local social benefits

This section describes the eligibility and associated entitlements for potential benefit recipients. Tables 1-4 in the Appendix contain more details and amounts;however, they are not comprehensive.[1]

Housing benefit is provided to cover the costs of rent, gas, water, heating, electricity and other housing and utility bills, not including the central government's electricity coupon of up to HRK 200. In Zagreb, Split and Osijek,only the Guaranteed Minimum Benefit (GMB) beneficiaries are eligible for the housing benefit in the amount of up to 50% of the "basic amount" of GMB. For example, a two-parent and two-children household is entitled to an amount of up to HRK 800. Housing benefit of Rijeka is slightly more complex compared to other cities. Rijeka extendsthe eligibility to low-income households satisfying their income test, but also uses the same upper limit of 50% of GMB"basic amount".[2]

Cities subsidize *pre-school programs* in public kindergartens, so parents pay significantly lower prices than the economic price depending on household income level and other criteria. The benefit amount is equal to the difference between the economic price and the fee paid by the parents. For a full day program (10 hours), fees in Zagreb, Rijeka and Osijek vary with income of parents, while Split has only one fee amount.Allcities offer various additional discounts (e.g., for families with disabilities, single parents, large families, recipients of child benefit).

City transport is subsidized with free or reduced-faremonthly or yearly ticketsfor public bus and/or tram transportation. As in the case of kindergarten subsidies, the benefitamount is obtained by calculating the difference between the economic price and the paidticket price. Students, pupils and pensioners pay lower fares in all cities, while the price for low-income householdmembers is usually zero. Split and Rijeka provide highest subsidies to pensioners, whose yearly transport fees are comparable to monthly fees in Zagreb and Osijek. In Osijek, unemployed persons, regardless of their household income, receive a full transport subsidy.

Old-age income supplements are received by pensioners whose income level is below a certain threshold. Supplements in Zagreb, Split and Rijeka vary with income and are provided on a monthly basis(with amounts usually between HRK 100-400),with additional gifts for Christmas and/or Easter (ranging from HRK 100-HRK 300).Unlike those cities, the city of Osijek provides only up to HRK 250 as holiday gifts for Easter and Christmas, without other old-age income supplements.

Grants for newborn children are received by parents and adoptive parents if a child is born in the respective city and parents havetheirresidence in the same city. The benefit amounts in Zagreb,Splitand Rijeka increase with the number of children, indicating theirpronatalist aspect. Osijek provides a universal lump-sumbenefit butalso anadditional supplement, as well as Rijeka, for low-income households.

4. Results

This sectionshows the results obtained with miCROmod simulations. An illustration of benefit entitlement and eligibility is presented for hypothetical households, followed by the distributional impact analysis based on the actual sample of households.

[1] Comprehensive information can be found in official gazettes and webpages of Zagreb, Split, Rijeka and Osijek.

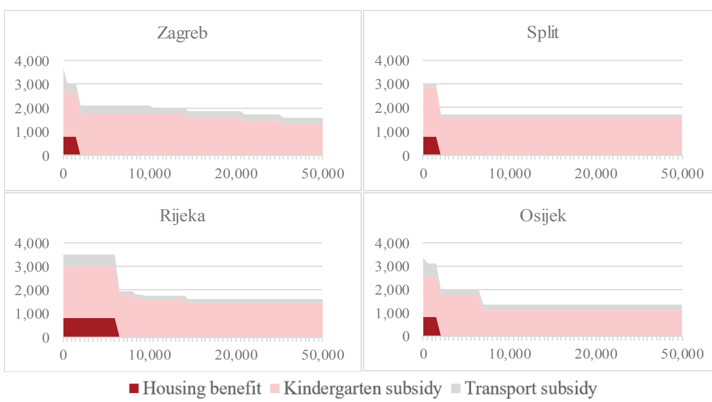
[2] Rijeka income test: total income of a household with one (two, three, four, five, etc.) member(s) should not exceed HRK 2,300 (2,900, 3,900, 5,000, 5,700); income of a single parent household with two (three, four, etc.) members should not exceed HRK 3,480 (4,680, 6,000, +HRK 840 for each additional member).

4.1. Hypothetical households

The hypothetical households described in section 2 were used to simulate four of the five benefits: housing benefits, old-age income supplement, city transport subsidy and kindergarten subsidy. Grants for newborn children are not represented with hypothetical households due to their low share in the overall benefits and their usually lump-sum character; however, their amounts are not insignificant.

Figure 1 illustrates the distribution of the aforementioned benefits for a family of two adults and two children depending on the adults' gross wage. The most important local support is the kindergarten subsidy. A 4-year-old child is present in the hypothetical household, and the child stays full-time (10 hours) at the kindergarten. Zagreb and Rijeka stand out with their tiered support due to their more than two-bracket income schedules; in Split and Osijek there are two levels of subsidy, with higher support for children in lowest income households. We assume that households are obligated to pay the rent of HRK 1,200 and housing bills of HRK 800, which is partially covered by the housing benefit (HRK 800).The beneficiaries are low income households, with Rijeka covering the widest rangeof households, due to their more generous income test.Higher subsidy of public transport at lower income levels is also noticeable in all cities except Split, which provides subsidised fares only to pupils in this hypothetical household (children below the age of 6 are assumed to ride free of charge in all cities).

***Figure 1** Hypothetical HHs - social benefits by income level, monthly (HRK); 2 adults & 2 children*

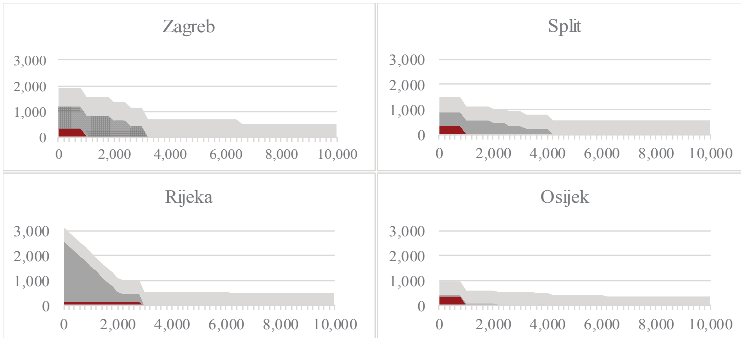


Source: authors' calculations based on miCROmod output
Notes: x axis: HHs gross wage; y axis: amount of benefits

A hypothetical household with two pensioners is presented in Figure 2. The dominant benefit for lower income households is the old-age income supplement. Rijeka's policy is the most generous and all households entitled to the housing benefit also receive the old-age income supplement in this hypothetical case, while Split has the widest coverage due to the high eligibility threshold. Osijek provides the least generous old-age income supplement, only gifts for Easter and Christmas which we divided by 12 to simulate a monthly benefit. Housing benefit (for bills of HRK 550 and no rent) is aimed at low-income households, with Rijeka standing out with its wider coverage, but also lower level as a result of coverage thresholds for housing bills.[3] Transport subsidy is provided to all households according to their members' pension.

[3] City of Rijeka covers 50% of heating, while gas and municipal services, other than municipal waste disposal (which is fully covered), are covered depending on volume. Only GMB beneficiaries are entitled to up to HRK 400 of electricity costs. Since our data input only has one variable for housing costs, we have artificially split the amount into electricity costs (40%), heating costs (40%) and other costs (20%).

Figure 2 *Hypothetical HHs - social benefits by pension level, monthly (HRK); 2 pensioners*



Source: authors' calculations based on miCROmod output
Notes: x axis: HHs gross pension; y axis: amount of benefits

4.2. Distributional impact and poverty analysis

The aim of this subsection is to show how the system of local benefits affects the income distribution and the risk of poverty. For this purpose,we have simulated the selected local benefits of each city on the entire sample of population.Firstly, equivalisedhousehold disposable income (EHDI) based on the central government's tax benefit ruleswas calculated. After that, we simulated EHDI using both the central government's tax benefit system and the local benefits system which belong to a particular local unit.

Table 1 reveals that applying only central government's benefit system,the mean EHDI for the whole population amounts HRK 2,724. Looking at columns 6 to 10, it can be seen that, on average, Zagreb has the most generoussystem of local benefits, followed by Rijeka, Osijek and Split. More precisely, relative to the central government's benefit system, local benefit systems additionally increase the mean EHDI by 8.5% in Zagreb, 6.1% in Rijeka and 5.9%in Osijek and Split.

Table 1 *Distributional impact of the selected local benefits on the equivalised household's disposable income*

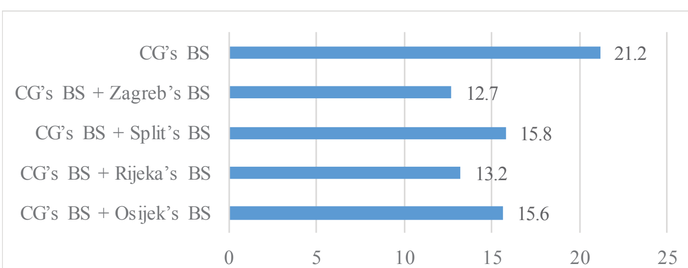
Decile group	Mean equivalised household's disposable income (in HRK)					Change in mean EHDI relative to central government (in %)			
	CG's BS	CG's +ZG's BS	CG's + ST's BS	CG's +RI's BS	CG's +OS's BS	ZG's BS	ST's BS	RI's BS	OS's BS
	1	2	3	4	5	6=(2-1)/1	7=(3-1)/1	8=(4-1)/1	9=(5-1)/1
1	811	1,188	1,001	1,133	1,048	46.4	23.3	39.7	29.1
2	1,302	1,626	1,496	1,610	1,503	24.9	14.9	23.6	15.5
3	1,565	1,888	1,756	1,786	1,764	20.6	12.2	14.1	12.7
4	1,881	2,182	2,064	2,053	2,066	16.0	9.7	9.1	9.8
5	2,169	2,409	2,322	2,301	2,327	11.1	7.1	6.1	7.3
6	2,521	2,718	2,666	2,644	2,670	7.8	5.7	4.9	5.9
7	2,892	3,065	3,021	2,996	3,023	6.0	4.4	3.6	4.5
8	3,428	3,599	3,569	3,545	3,565	5.0	4.1	3.4	4.0
9	4,109	4,258	4,248	4,219	4,233	3.6	3.4	2.7	3.0
10	6,303	6,394	6,449	6,391	6,413	1.4	2.3	1.4	1.7
All	2,724	2,956	2,884	2,891	2,886	8.5	5.9	6.1	5.9

Source: authors' calculation based on miCROmod output
Notes: BS – benefit system; CG – central government; ZG – Zagreb; ST – Split; RI – Rijeka; OS – Osijek

Four of the five simulated local benefits are means-tested and their primary purpose is to increase the disposable income of the poorest population groups. To analyse the income distribution of the low-income groups, households are divided into decile groups according to the EHDI in the central government's benefit scenario. For instance, the first decile group contains 10% of households with the lowest EHDI. The results from Table 1 confirm that the simulated local benefits achieve the highest increase in household disposable income for the lowest decile groups. Furthermore, relative to the central government's benefit system, Zagreb's local benefits significantly increase the mean EHDI in the first decile group (by 46.4%); the mean EHDI grows by 24.9% in the second decile groups, 20.6% in the third decile groups, 16.0% in the fourth decile groups, etc. Relative to the central government's benefit system, the local benefit system of Rijeka, as the second most generous system, also significantly improves the living conditions of the poorest groups of citizens; the mean EHDI increases by 39.7% in the first decile group, 23.6% in the second decile groups, 14.1% in the third decile groups, etc. As for Osijek's and Split's local benefit systems, relative to the central government's system, the mean EHDI grows by 29.1% and 23.3% in the first decile group, respectively.

Looking at the at-risk-of-poverty (AROP) rate, which is calculated based on EHDI, Figure 3 reveals that when only the central government benefit system is applied, the AROP rate is 21.2 %. In order to further reduce the risk of poverty, local units introduce their own benefit systems. In sum, our results suggest that, taking the AROP rate as an indicator, Zagreb has the most effective system of local benefits, followed by Rijeka, Osijek and Split. More precisely, applying Zagreb's local benefits system on the whole population, the AROP rate is additionally reduced by 8.5 percentage points (p.p.). Rijeka's system is only slightly less effective in poverty reduction, decreasing the AROP rate by 8.0 p.p. Finally, introducing Osijek's and Split's local benefits systems decreases the household risk of poverty rate by 5.6 and 5.4 p.p. respectively.

Figure 3 *Poverty risk rate before and after the introduction of particular local benefit systems, in %*



Source: authors' calculations based on miCROmod output

Notes: (1) in each simulation we have used the fixed poverty threshold, which is calculated according to the EHDI of the central government benefits scenario;(2) BS – benefit system; CG – central government

5. Conclusion

In this research we have applied miCROmod, the Croatian tax-benefit microsimulation model, to analyse the distributional impact of local social benefits of Zagreb, Split, Rijeka and Osijek. Our analysis reveals that local benefits under consideration have an importantimpact on disposable incomes of all decile groups, and especially of the poorest. Theanti-poverty effectivenessof local benefits is thus unquestionable. In accordance with previous research (Šućur et al., 2016; World Bank, 2016), we have founddistinct differences among the four local benefit systems,i.e., benefit amounts and eligibility criteria vary, resulting indiverse poverty reduction effects. The main limitations of our approach relate to the lack of residence data in the ADS sample, as well as other data restrictions that can narrow down the level of detail achieved in the simulations. However,this research has shownhow, using microsimulation techniques, one can take account of the diversity in existing local benefit systems to assess the magnitude and anti-poverty effectiveness of policies with similar goals.Analysis based on miCROmodcan be further extended to provide useful estimates of budget expenditure, work incentives, as well as to assess the inequality reduction effects for specific groups and for the populationas a whole. This makes it an invaluable tool for policy evaluationand future evidence-based policy reforms.

Acknowledgement
The authors wish to thank Ivica Urban for his instructive support during the research.
This paper was funded by the Croatian Science Foundation under the project UIP-2014-09-4096 (AMMATSBC) and the work of doctoral student Martina Pezer has been fully supported by the Croatian Science Foundation.

REFERENCES

Browne, J. and Immervoll, H. (2017). ***Mechanics of replacing benefit systems with a basic income: comparative results from a microsimulation approach***. The Journal of Economic Inequality. 15(4), pp. 425-344.

EUROSTAT (2018). ***Glossary: Social protection benefits,***http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Social_protection_benefits (accessed 15 Feburary, 2018)

Figari, F., Matsaganis, M. & Sutherland, H. (2013). ***Are European social safety nets tight enough? Coverage and adequacy of minimum income schemes in 14 EU countries***. International Journal of Social Welfare. 22(1), pp. 3-14.

Paulus, A., Sutherland, H. andTsakloglou, P. (2010). ***The Distributional Impact of In-Kind Public Benefits in European Countries***. Journal of Policy Analysis and Management. 29(2), pp. 243-266.

Popova, D. (2016). ***Distributional impacts of cash allowances for children: A microsimulation analysis for Russia and Europe***. Journal of European Social Policy.26(3), pp. 248-267.

Šućur, Z., Babić, Z., Urban, I., and Baran, J. (2016). ***Struktura naknada, izdaci i korisnici programa socijalne zaštite u Republici Hrvatskoj***. Ministarstvo socijalne politike i mladih, https://bib.irb.hr/prikazi-rad?&rad=807966˙(accessed 10 February 2018)

Sutherland, H., and Figari, F. (2013). ***EUROMOD: the European Union tax-benefit microsimulation model.*** International Journal of Microsimulation, 1(6), pp. 4–26.

Urban, I., 2016. ***Primjena mikrosimulacijskih modela u analizi poreza i socijalnih naknada u Hrvatskoj***. Newsletter No. 104., Institute of Public Finance

Urban, I., Bezeredi, S. and Pezer, M. (2017). **EUROMOD Country Report: Croatia 2014-2017**. Institute for Social and Economic Research.

Urban, I., Pezer, M., Bezeredi, S. (2018). ***miCROmod report: 2014-2017***. Zagreb: Institute of Public Finance.

World Bank (2016). ***Hrvatska. Ocjena siromaštva za mala područja temeljem potrošnje (Karte siromaštva)***, https://goo.gl/uJ7sBJ (accessed 23 February 2018)

APPENDIX

Appendix Table 1*Public kindergarten fees, full-time stay (10 hours) for one child, monthly (HRK), 2017*

<table>
<tr><th colspan="2">Fees:</th><th colspan="2">Zagreb</th><th>Split</th><th colspan="2">Rijeka</th><th colspan="2">Osijek</th></tr>
<tr><td colspan="2">Economic price</td><td colspan="2">1.900</td><td>2.045</td><td colspan="2">2.167</td><td colspan="2">1.760</td></tr>
<tr><td colspan="2">Price that parents pay</td><td>IPM:
< 2.500
2.500-3.500
3.500-4.500
>4.500</td><td>150
300
450
600</td><td>480</td><td>IPM:
<1/3 ANW
1/3–1/2 ANW
>1/2 ANW</td><td>550
600
720</td><td>IPM:
<1.000
>1.000</td><td>0
640</td></tr>
<tr><td rowspan="3">Chosen discounts</td><td>Single-parent HHs:</td><td colspan="2">25%</td><td>50%</td><td colspan="2">/</td><td colspan="2">30%</td></tr>
<tr><td>GMB beneficiaries:</td><td colspan="2">80%</td><td>100%</td><td colspan="2">100%[a]</td><td colspan="2">/</td></tr>
<tr><td>CB beneficiaries:</td><td colspan="2">/</td><td>50%[b]</td><td colspan="2">30%</td><td colspan="2">/</td></tr>
</table>

Source: authors, based on Urban et al. (2018)

Notes: IPM – income per HH member; ANW – average net wage in Croatia last year; CB – child benefit; GMB – guaranteed minimum benefit;[a] Including HHs with low incomes according to Rijeka income test; [b] for families with three or more children; various discounts are available for families with 2 or more children currently involved in the program

Appendix Table 2*City transport subsidy (zone I), monthly (HRK), 2017*

<table>
<tr><th>Fares:</th><th>Zagreb</th><th>Split</th><th>Rijeka</th><th>Osijek</th></tr>
<tr><td>Standard</td><td>360</td><td>290</td><td>276</td><td>275</td></tr>
<tr><td>Elementary / High school/ Student:</td><td>90 / 100 / 100</td><td>130</td><td>92 / 134 / 134</td><td>55 / 55 / 120</td></tr>
<tr><td>Pensioner: age >65 / age <65</td><td>100 / -</td><td>0.83 – 25▪ / 143</td><td>2.5 – 16.5▪ / -</td><td>20 – 100 / -</td></tr>
<tr><td rowspan="4">Free</td><td colspan="4">Low-income HH students and pupils*</td></tr>
<tr><td rowspan="2">Low-income: unemployed / pensioner</td><td rowspan="2">/</td><td colspan="2">Head of a low-income HH</td></tr>
<tr><td>Low-income unemployed</td><td>Unemployed</td></tr>
<tr><td colspan="4">Other</td></tr>
</table>

Source: authors, based on Urban et al. (2018)

*Note: * Split – families with three or more children, Child benefit beneficiaries; ▪ citizens pay yearly rates*

Appendix Table 3*Old-age income supplement, monthly (HRK), 2017*

<table>
<tr><th>Supplements:</th><th colspan="2">Zagreb</th><th colspan="2">Split</th><th colspan="3">Rijeka</th><th colspan="2">Osijek</th></tr>
<tr><td>Individual income</td><td>Benefit</td><td>Gift</td><td>Benefit</td><td>Gift</td><td>Pension</td><td>Benefit</td><td>Gift</td><td>Pension</td><td>Gift</td></tr>
<tr><td>0 to 900</td><td>400</td><td rowspan="3">200/12</td><td>250</td><td rowspan="3">300/12</td><td rowspan="2">0 to 1,000</td><td rowspan="2">1,200 minus the amount of pension</td><td rowspan="3">300/12</td><td>0 to 1,000</td><td>500/12</td></tr>
<tr><td>900 to 1,200</td><td>300</td><td>200</td><td rowspan="2">1,000 to 1,700</td><td rowspan="2">400/12</td></tr>
<tr><td>1,200 to 1,500</td><td>200</td><td>150</td><td>1,000 to 1,400</td><td>150</td></tr>
<tr><td>1,500 to 2,000</td><td colspan="2">-</td><td>100</td><td>150/12</td><td colspan="3">-</td><td>1,700 to 2,000</td><td>200/12</td></tr>
</table>

Source: authors, based on Urban et al. (2018)

Note: Giftsfor Easter and Christmas are provided as lump-sums, but they are simulated as monthly income (their sum divided by 12). Zagreb and Osijek provide both Christmas and Easter gifts, while the gifts provided by Rijeka (a supermarket coupon) and Split are given only for Christmas.

Appendix Table 4*Grant for newborn child, yearly (HRK), 2017*

<table>
<tr><th>Grants:</th><th colspan="2">Zagreb</th><th colspan="2">Split</th><th>Rijeka*</th><th colspan="2">Osijek</th></tr>
<tr><td>1st child</td><td>1,800</td><td>lump-sum</td><td>2,000</td><td>lump-sum</td><td>1,500</td><td rowspan="2">GMB beneficiaries</td><td rowspan="2">3,000</td></tr>
<tr><td>2nd child</td><td>3,600</td><td>2 y. instalments</td><td>3,000</td><td rowspan="2">2 y. instalments</td><td>2,000</td></tr>
<tr><td>3rd child</td><td rowspan="3">54,000</td><td rowspan="3">6 y. instalments</td><td>4,000</td><td rowspan="3">3,000</td><td rowspan="3">not GMB beneficiaries</td><td rowspan="3">2,000</td></tr>
<tr><td>4th child</td><td>5,000</td><td rowspan="2">3 y. instalments</td></tr>
<tr><td>5th child</td><td>6,000</td></tr>
</table>

Source: authors, based on Urban et al. (2018)

*Note: * Low-income households receive an additional coupon for child products of HRK 2,000.*

Anđela Pribisalić, bacc.ing.agr.
E-mail address: andelavarkasica@gmail.com

Nina Popović, PhD, Professor
Karlovac University of Applied Sciences
Trg J.J.Strossmayera 9, 47000 KARLOVAC
E-mail address: nina.popovic@vuka.hr

Marko Pribisalić, PhD student
E-mail address: marko.pribisalic@gmail.com

ECOLOGICAL VALORISATION OF THE NATURE PARK BIOKOVO

EKOLOŠKO VREDNOVANJE PARKA PRIRODE BIOKOVO

ABSTRACT

Sustainable management of the Biokovo Nature Park is needed because of the long-term nature conservation and accompanying ecosystem services. One of the most effective tools for sustainable management of the protected area is the ecological evaluation of the protected area. The paper addresses the need for an ecological evaluation of the protected area, which aims to provide the criteria and information that can be used as a decision-making aid in nature conservation. Spatial analysis of the Biokovo Nature Park was made on the basis of the existing Spatial Plan of the Park. The effect of carrying out economic activities on biological and landscape diversity was analysed in the results. Given the limited possibilities of using the protected area, the use of the protected area is only possible in a strictly controlled and moderate manner. Considering the significant ecological, biological, landscape and historical significance of Biokovo Nature Park, it definitely deserves one overall interdisciplinary approach to evaluation, such as ecological evaluation.

Key words: *protected area, ecological evaluation, impact matrix, Nature Park Biokovo.*

SAŽETAK

Zaštićenim područjem Parka prirode Biokovo potrebno je održivo upravljati radi dugoročnog očuvanja prirode i pratećih usluga ekološkog sustava. Jedan od učinkovitih alata za održivo upravljanje zaštićenim područjem upravo je ekološko vrednovanje zaštićenog područja. U radu se ukazuje na potrebu za ekološkim vrednovanjem zaštićenog područja koje za cilj ima osigurati kriterije i informacije koje se mogu koristiti kao potpora odlučivanju u očuvanju prirode. Prostorna analiza Parka prirode Biokovo izrađena je na podlozi postojećeg Prostornog plana Parka. U rezultatima je analiziran i utjecaj različitih gospodarskih djelatnosti na biološku i krajobraznu raznolikost. S obzirom na ograničene mogućnosti korištenja zaštićenog područja, korištenje istog moguće je samo na strogo kontroliran i umjeren način. S obzirom na značajnu ekološku, biološku, krajobraznu i povijesnu važnost Parka prirode Biokovo ono svakako zaslužuje jedan cjelokupan interdisciplinaran pristup vrednovanja, kao što je ekološko vrednovanje.

Ključne riječi: *zaštićeno područje, ekološko vrednovanje, matrica utjecaja, Park prirode Biokovo*

1. Introduction

A protected area is a geographical distinctly specified area intended for nature preservation, and controlled for the purpose of long-term nature conservation and accompanying ecosystem services (NN 80/13). Protected areas can be the only natural ecosystem in parts of the world where most of the landscape was transformed, due to agriculture or industry. Socio-economic and cultural values of those areas are more and more recognizable as well as the role of natural ecosystems. Values of natural ecosystems were imperceptible, forgotten and underestimated until recently. Costanza et al. (1997) put an emphasis on ecosystem services. He emphasised that the products of an ecosystem (such as food) and services (such as assimilation of waste) are the advantages, which are the result of the ecosystem's functions. The maintaining of healthy ecosystems requires information obtained from the evaluation of natural resources within individual species, population, community and ecosystem (here defined as ecological evaluation). Therefore, the aim of this research was to make the ecological evaluation of Biokovo Nature Park and examine the influence of the activities on biological and landscape diversity with the aim of defining guideline on sustainable management of the protected area.

2. Research aim

The aim of this paper was to explore the positive and negative influences on performing economic activities in the protected area of Biokovo Nature Park. Furthermore, this paper questions whether the performance of the economic activity in the protected area is in accordance with the concept of zoning in the Park. In other words, is the sustainable use of the area in accordance with the aims of preservation of biological and landscape diversity?

3. Material and methods

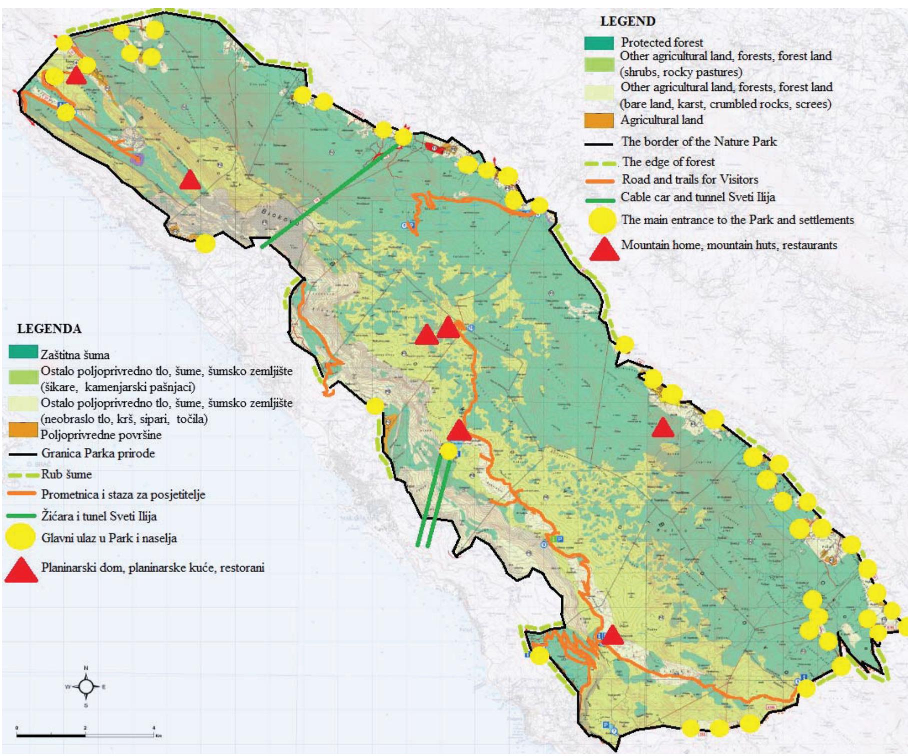
In this paper were used different sources in order to achieve a better quality of the research and have better insight into the problem. Necessary materials from primary and secondary sources were used in the making of this paper alongside the conduction of the poll. The base of the spatial analysis of Biokovo Nature Park is the existing spatial plan (NN 2015) Lynch (1972) made the structural analysis of the area. He defined structural elements of the city, but in landscape planning, that kind of structural analysis is implemented because of its universality. They could be used as the elements of the picture of a certain area. In that particular way, they are used in this paper to analyse structural characteristics of Biokovo Nature Park and to determine visual picture and identities of that area (Barčić, Panić 2011). Gathered information was processed with Adobe Photoshop CS6 program. The map "Use and purpose of the area", which is an integral part of Biokovo Nature Park areal plan, was the base for the plotting of structural elements (NN 2015). Structural elements of the area were drawn with the graphical computer program on the mentioned base, based on the data available in the literature. Gathering of data was accomplished through polling of people who are actively included in Park's affairs of nature preservation and management of specific areas/activities in the Park.

4. Research results and Discussion

4.1 Special valorisation of Biokovo Nature Park

Biokovo Nature Park has specific appearance due to natural processes of limestone melting in relatively warm and shallow waters in the Mesozoic Era. Later tectonic processes have elevated and exposed the limestone to erosion, which led to the emergence of special geological surface known as karst. Man's activity and coexistence in that area have affected the appearance as well. The effects of man's activity and coexistence in that area are visible through performed work, biological and landscape diversity. Biokovo Nature Park is located in a specific area where natural processes, which are typical for geographical and climate characteristics of this area, are undisturbedly unwound. Preservation of the habitat is the condition for the survival of numerous rare and endangered species of flora and fauna. The area of the park can and must be the foundation of the development of local community who is highly conscious of the sustainable use of natural and cultural goods. Sustainable development of present activities in the area is fundamental for the protection of the biological and landscape diversity. Areas are like homogeneous parts and they are recognised as protected forest areas, other agricultural lands, forest and woodland, and farmlands (Figure 1). Forest surfaces contribute to the vertical dimension of the area aside from its two-dimensional characteristics. Alteration of forest, agricultural and other surfaces introduces specific energy and dynamics in the area, which leaves a powerful visual impression on the observer. Agricultural surfaces introduce anthropogenic component in the area. This component represents the visual contrast to natural surfaces of the other areas and in a specific way partially interrupts their dynamics. Margins in the area make similar disruption of the surface continuity. Marginal parts in the area represent the discontinuation of natural surfaces and the beginning of the inhabited parts of that area. Bare rocks, which are characteristic for Biokovo Mountain, prevail from the south (maritime) side of the park and they create a powerful visual barrier. Except for the rocks, products of man's construction (roads, tunnels, cable cars, etc.) create powerful visual and physical barrier.

***Figure 1** A structural area analysis according to Lynch's model (1972)*



Source: Authors

4.2 The analysis of the influence of the activities on the biological and landscape diversity

The region of Biokovo Nature Park is a small area full of natural resources. Specific climate and relief parameters, which are characteristic for that area, have the influence on biological and landscape diversity. That influence enables the development of the economy within agriculture, forestry, hunting, cattle breeding, mining, and other branches. Population in the area of Biokovo Nature Park were engaged in different activities from ancient times. Specific laws and regulations regulate most of the mentioned activities. They take care of longevity of natural resources and their rational exploitation alongside proper regulation. However, in practice economic component (exploitation of natural resources) is more highlighted than the protection (Radović, 1999a). Comparing with European Union, biological resources, including Biokovo Nature Park, are relatively preserved owing to the economic situation in the country and past situation of the area. Nowadays, legislation of the Republic of Croatia synchronizes with the legislation of the European Union in all segments, and in the process, they respect scientific cognitions, which emphasise the preservation and reasonable use of nature (Radović, 1999b).

4.2.1 Forestry

The man exposed forest cover in Biokovo Nature Park until recently. The exposure is apparent in very intense cattle breeding, and logging for firewood and construction. In spite of this, the enormous amount of autochthonous forest vegetation, which occupies 11 170 hectares of park, was saved. Wildfires cause problems every year with their devastation of forests. Fires completely change the existing forest ecosystem because it destroys species that have economic significance alongside those who does not but they are important for the diversity of fauna, which is characteristic of the forest ecosystem. There were three wildfires in the park in the first eight months of 2017. Two hundred and thirty-seven hectares of underbrush and pine forest burned down. The existing level of protection does not exclude further management, but it imposes some new conditions that now receive greater meaning. Preserving biological diversity is the reason why two activities are important in the context of forestry: exploitation and bringing non-native species. In recent times, natural restoration of the forests can be noticed on considerable wide spaces of this area. It is the consequence of the lower pressure of the local community (logging for personal needs, cropping of branches) and decreased goats browse. The whole area of Biokovo Nature Park is enriched with various wild growing plants and secondary forest fruits. Gathering of medicinal herbs for personal needs is widely present, and briar and sage precede in that category alongside asparagus and mushrooms. According to the results of the conducted research and the data in Table 1, forestry has little or no influence on biological and landscape diversity in Biokovo Nature Park.

4.2.2 Water management

The water flows underground because of the considerate amount of karst at Biokovo Mountain. There are almost no overground flows (hydrosphere). Mostly capped karst springs are present alongside rare torrential streams, pools, and wells (Ozimec, 2008). There is not much water management activity in Biokovo Nature Park. The only activity is water supply, in other words, the introduction of local water supply systems for villages located in the margins of the park. Water supply systems have capped springs, and that water flows in the local water supply system network in order to provide villages of marginal parts of the park. The results of research are presented in Table 1. They eliminate any kind of possibility of the negative effect occurrences while performing water management activities. However, various pollutants, such as communal wastewater, industrial and agricultural wastewater, rainfall, and sanitary wastewater, can have a powerful influence on the water quality.

4.2.3 Agriculture

Traditional agriculture in the park is allowed on the existing agricultural areas, karst valleys, and docks. The future development and preservation of agriculture in the park area and its contact areas should acknowledge the level of protection and existent structure of the production because it is the result of natural, economic and other conditions, such as customs, habits, and tradition. Agricultural areas occupy more than 200 ha of the park: olive groves- 25,4 ha, plough fields- 87,6 ha, orchards- 32,3 ha, vineyards- 69,1 ha. The development of agriculture in the park should be observed through the development of rural area where small rural economies reside. According to the results of the conducted research and the data in Table 1, agriculture has no or has insignificant influence on biological and landscape diversity in Biokovo Nature Park. This result also confirms the fact that there are no traditional agricultural economies in the park area and agricultural activities are reduced because of the decrease in the number of inhabitants of the area. In addition, the result shows that agricultural practice in the park area follows world trends. The best evidence is the use of fertilizers on the remaining agricultural areas in the park. A reduction of agricultural areas is certainly one of the factors that have the negative influence on biological and landscape diversity of the park. In order to decrease negative influence on biological and landscape diversity, it is necessary to preserve habitational conditions, mainly preservation of grasslands and encouraging of the traditional agriculture.

4.2.4 Hunting

Hunting and game in Biokovo Nature Park are present since the time of first settlements in that area. There is constant inhabitation of smaller games such as rabbit, fox, badger, edible dormouse, and sometimes quail and snipe. Jackals and wolves appear periodically. They have become regular inhabitants of Biokovo around twenty years ago. According to the paleontological findings, big games inhabited on Biokovo Mountain, but they have disappeared in the 1960’s. On the initiative of hunters from Makarska in 1961, the Department of forest and hunting researches from Zagreb conducted a study about the possibility of repopulation and reintroduction of big games. The result of that work is one of the most successful populations and reintroductions of big games registered in hunting annals (Filipeti, 2016). Cultivation of games with natural methods and in natural habitat is planned in the state’s open hunting grounds. For other species of games, rabbit, rock partridge, and other smaller games, the number of main funds is within the limits of LGO’s prescription, or inside the biological minimum. Sudden development of day-trip tourism, increased interest in hunting with tendencies of constant increase, increased number of motor vehicles and visitors in the central zone of hunting grounds have seriously disrupted tranquillity in the hunting ground. Furthermore, this led to disabling natural migrations, increasing of poaching, and decreasing of hunting grounds for chamois. These problems need to be addressed in order to maintain the economic capacity of hunting grounds in coming period. In addition, the constant presence of protected wolves and its numerousness of two packs (assessment from 12 to 20 head) are the reason for increased measurements of the population protection. The game is planned to be protected with regular reinforce nutrition and with securing the tranquillity in the hunting ground as well as the improvement of the habitat. The plan is to establish permanent game-keeper service with, at least, one game-keeper and predators will be maintained at the prescribed number. The other plan is to remove stray cats and dogs, and people will be using only trained dogs for hunting (HŠ, 2015).

Table 1 *The matrix effect of forestry, water management, agriculture and hunting on biological and landscape diversity*

THE MATRIX EFFECT OF ECONOMIC ACTIVITIES ON BIOLOGICAL AND LANDSCAPE		FORESTRY		WATER MANAGEMENT		AGRICULTURE					HUNTING		
IMPACT GRADES: 0 – no impact 1 - negligible impact 2 - very slight impact 3 - slight impact 4 – strong impact 5 – very strong impact		INTRODUCTION OF ALLOCHTHONOUS TREE SPECIES	WOOD MASS UTILISATION	WASTEWATER DISCHARGE	FLOODWATER REGIM	AMELIORATION	USE OF ARTIFICIAL FERTILIZERS	WASTEWATER DISCHARGE	USE OF HEAVY MACHINERY	INTENSIVE PRODUCTION	OVER INTENSIVE GAME	HARVEST OF PROTECTED SPECIES	POACHING
BIOLOGICAL AND LANDSCAPE DIVERSITY	VISUAL LANDSCAPE QUALITY	0	1	0	0	0	1	0	0	0	2	0	1
	NATURAL HABITAT OF PLANT SPECIES	0	1	0	0	0	1	0	0	0	1	0	1
	FOREST	0	1	0	0	0	0	0	0	0	1	0	1
	OTHER AGRICULTURAL SOIL	0	1	0	0	0	1	0	0	0	1	0	0
	NATURAL HABITAT OF ANIMAL SPECIES	0	1	0	0	0	1	0	0	0	1	0	1
	NEMATODES, MOLLUSCS, EARTHWORMS, LEECHES	0	1	0	0	0	1	0	0	0	0	0	0
	CRUSTACEANS	0	0	0	0	0	0	0	0	0	0	0	0
	NSECTS	0	1	0	0	0	1	0	0	0	1	0	0
	FISHES	0	0	0	0	0	0	0	0	0	0	0	0
	AMPHIBIANS	0	1	0	0	0	1	0	0	0	0	0	0
	REPTILES	0	1	0	0	0	1	0	0	0	0	0	0
	BIRDS	0	1	0	0	0	1	0	0	0	0	0	0
	MAMMALS	0	1	0	0	0	1	0	0	0	1	1	1
	ANIMAL MIGRATIONS	0	1	0	0	0	0	0	0	0	2	1	1
	FISH MIGRATIONS	0	0	0	0	0	0	0	0	0	0	0	0
	BIRD MIGRATIONS	0	1	0	0	0	0	0	0	0	0	0	0
	MAMMAL MIGRATIONS	0	1	0	0	0	0	0	0	0	2	1	1
	WATER – SURFACE - GROUNDWATER	0	1	0	0	0	0	0	0	0	0	0	0
	FLOOD REGIM	0	0	0	0	0	0	0	0	0	0	0	0
	SOIL	0	1	0	0	0	1	0	0	0	0	0	0
	AIR	0	1	0	0	0	0	0	0	0	0	0	0

Source: Authors

Table 2 *The matrix effect of traffic, transmitters and connections, tourism and catering, cattle breeding and mining - quarry on biological and landscape diversity*

	THE MATRIX EFFECT OF ECONOMIC ACTIVITIES ON BIOLOGICAL AND LANDSCAPE IMPACT GRADES: 0 – no impact 1 - negligible impact 2 - very slight impact 3 - slight impact 4 – strong impact 5 – very strong impact	TRAFFIC		TRANSMITTERS AND CONNECTIONS		CATTLE BREEDING				TOURISM AND CATERING		MINING - QUARRY	
		VISITING THE PARK IN VEHICLES	TRAVELLING ALONG FIELD AND FOREST TRAILS	INFLUENCE OF RADIATION	OTHER NEGATIVE EFFECTS OF TRANSMITTERS AND CONNECTIONS	IMPACT OF GREENHOUSE GASES	DESTRUCTION OF SOIL	POLLUTION SOURCES OF WATER	OTHER NEGATIVE EFFECTS OF CATTLE BREEDING	TOURIST VISITS	CABLE CAR PROJECT MAKARSKA - BIOKOVO	DUSTINESS, NOISE AND VIBRATION, EXHAUST GASES, POLLUTION WITH OIL DERIVATIVES	ABANDONED QUARRY
BIOLOGICAL AND LANDSCAPE DIVERSITY	VISUAL LANDSCAPE QUALITY	3	1	0	0	1	1	0	1	3	3	0	4
	NATURAL HABITAT OF PLANT SPECIES	3	1	1	0	1	1	0	1	3	3	0	3
	FOREST	3	1	1	0	1	1	0	1	1	3	0	0
	OTHER AGRICULTURAL SOIL	1	1	0	0	1	1	0	1	1	1	0	0
	NATURAL HABITAT OF ANIMAL SPECIES	3	1	3	1	1	1	0	1	3	3	0	3
	NEMATODES, MOLLUSCS, EARTHWORMS, LEECHES	1	1	3	1	1	1	0	1	1	2	0	1
	CRUSTACEANS	0	0	0	0	0	0	0	0	0	0	0	0
	NSECTS	2	1	3	1	1	1	0	1	1	2	0	1
	FISHES	0	0	0	0	0	0	0	0	0	0	0	0
	AMPHIBIANS	2	1	3	1	1	1	0	1	1	2	0	0
	REPTILES	3	1	3	1	1	1	0	1	1	2	0	1
	BIRDS	2	1	3	1	1	1	0	1	1	2	0	1
	MAMMALS	2	1	3	1	1	1	0	1	1	2	0	1
	ANIMAL MIGRATIONS	2	1	0	0	0	0	0	0	1	2	0	0
	FISH MIGRATIONS	0	0	0	0	0	0	0	0	0	0	0	0
	BIRD MIGRATIONS	1	1	0	0	0	0	0	0	1	2	0	0
	MAMMAL MIGRATIONS	2	1	0	0	0	0	0	0	1	2	0	0
	WATER – SURFACE - GROUNDWATER	0	0	0	0	0	0	0	0	0	0	0	0
	FLOOD REGIM	0	0	0	0	0	0	0	0	0	0	0	0
	SOIL	2	1	0	0	1	1	0	0	0	2	0	0
	AIR	3	1	0	0	0	0	0	0	1	2	0	0

Source: Authors

4.2.5 Traffic

The systems of traffic infrastructure are one of the essential factors, which has an influence on the economic, social, and spatial development of some area. That includes Nature Park as well, but in that instance, the risk factors appear (Barčić et al., 2011). The development of other activities in the Park area is closely connected with the traffic activities. Good traffic connection is one of the primary conditions for the development of the activities inside the Park. Biokovo road is responsible for the nearly entire attendance of the Park (around 95%). The visitors would mostly stay in the zones, which were located along the Biokovo road. Negative influence is the highest in areas near the road and in order to preserve them and other natural values of the Park, visiting and sightseeing has to be organised in a way, which would have the least amount of negative effects on Biokovo Nature Park. Table 2 shows the data collected from a conducted research. The largest negative influence on biological and landscape diversity have people who visit the Park with their vehicles. It has a negative effect on the visual quality of the landscape, natural habitats of flora and fauna, forest types, air and soil quality, animal migrations, etc.

4.2.6 Transmitters and connections

The object of telecommunications infrastructure for public telephone network and broadcasting of TV programmes is located on St. Jure, the highest peak of Biokovo Mountain. Radio and TV antenna signals are the substantial source of radiation in the environment. The amount of radiation depends on its frequency. Institute of Environmental Science and National Institute for Public Health in the Netherlands published the extended report in January 2013 in which they concluded that in 65% of all instances the effect of electromagnetic fields on plants and animals is noted. The authors carefully analysed the effects on birds, other vertebrates, insects, plants, and other organisms (Cucurachi et al., 2013). Table 2 shows the results of the conducted research. The results confirm the conclusions of the authors who conducted the research. We can see from the data that negative effects of transmitters have a somewhat stronger influence on the animal species in regards to plants. Furthermore, it has a negative influence on natural habitats, bugs, amphibians, reptiles, birds, mammals, and all other organisms.

4.2.7 Cattle breeding

According to archaeological data, cattle breeding in the Biokovo area was present in the Palaeolithic. Movements of cattle breeders begun at the beginning of Neolithic and it represents one segment of traditional economic activity. The decrease in population led to the neglect of cattle breeding. It is almost inexistent as an economic branch, aside from individual attempts of creating small herds of sheep and goats. In modern time, pasture is necessary in order to protect habitats and biodiversity. The areas of pastures extend on the surface of 980 ha. Meanwhile, there is 6000 ha of unused area in Biokovo, which is suitable for pasture. Those areas could become areas for pasture under the certain conditions. Cattle breeding in Biokovo area is reduced to only 900 head of cattle according to the assessment from 2011. To continue, in the southeastern part of Biokovo we can find summer shelters, which are in poor condition today. They should be protected considering that they represent cultural and ethnological inheritance of Biokovo. Rare breeds of domestic animals live in the Biokovo area such as “Dalmatian buša (busha)”, “Dalmatian donkey”, “Gray dalmatian cattle” and “Croatian horse breed called bušak (bushak)” (Anonymous, 2017). Results of the conducted research show that negative effects of cattle breeding have insignificant influence on biological and landscape diversity of the Park. At the same time, traditional cattle breeding has positive effects on biological and landscape diversity.

4.2.8 Tourism and catering

People traditionally used the land for agriculture and hunt while today tourism is the activity that brings the benefit of the local community, but it also represents the largest threat to Park's ecosystem. 55 255 visitors visited Biokovo Nature Park according to the official information. There is a significant rise in the numbers of visitors. For instance, 46 982 visitors visited the Park in 2015. A large number of daily visitors pressure the park even more. It is possible that the real number of visitors is even larger than the registered number. The main reason is the insufficient control of visitors, which can also lead to accidents and injuries of visitors (Petrić, 2008). Recreational and sports activities are allowed and developed in the Park area. Recreational activities include only walks in nature while sports activities include mountain climbing, mountaineering, cycling, free climbing, and paragliding. These activities, alongside extreme sports, are integral parts of adventurous ecotourism in this area. Furthermore, it increased from 10 to 30% lately. Biokovo road is responsible for the nearly entire attendance of the ParkIn cooperation with the local community, the restoration of modern visiting centre in Župa is planned in order to disencumber Biokovo road, disperse visitors, and to increase attendance of the north side of the Park. One of the main assignments of the Park is the education. The education is one of the most important means of promoting the nature preservation. You can locate four educational trails in the Park: Educational geological trail "Pod Vilovikom", Educational trail "Putovima drevne Berulije", Educational trail "Sridivice", and Educational trail "Topnički put". On all of the mentioned trails, visitors can learn about the Biokovo emergence, life in old Berulia and its residents, and about the events in the area during World War I. If people familiarize with the Park's values, they will become more conscious about the necessity of nature and environmental preservation, which results in the change of relations toward nature protection. Furthermore, the visitors will feel the need to include themselves actively in nature and environmental preservation in everyday life. Results in Table 2 show that touristic visits have the most negative effects on the visual quality of landscape and on natural habitats of plant and animal species. According to the Study of project influences on the environment (Anonymous, 2016), the planned project of cable car connecting Makarska and Biokovo will have a moderately negative effect on the environment, primarily on landscape and biodiversity, but it will also have a positive effect on socioeconomic features on the city of Makarska and its coast. This also means that the number of visitors will increase. The significant increase in numbers of visitors will bring the pressure on that area which can lead degradation of the natural environment in the context of unfavourable effect on some components of the environment. The study of the Main evaluation of acceptance for the ecologic network has confirmed that the planned project of building cable car Makarska- Biokovo will have the negative effect on targeted species and habitats. Negative effects can be decreased with the use of proposed mitigation measures, tracking programmes, and especially regulation of visitor numbers.

4.2.9 Mining - quarry

The closed quarry Bast, which is located on the south slopes of Biokovo Nature Park, had a negative influence on the landscape of the whole slope and plateau St. Ilija. Even though mining-quarry is responsible for man's development and progress, it had devastating consequences on soil, relief, plants, animals, and they had changed the authentic landscape (Dunda et al., 2003). The results of the conducted research prove negative effects of the quarry on the Park's ecosystem. The results show that the negative effects mostly influenced natural habitats of plant and animal species along with the visual quality of the landscape.

5. Conclusions

Environment management is not an easy assignment. It is not possible to manage the environment without including the other physical, social, cultural, and ecological phenomena. Ecological valuation is the foundation for the conduction of all types of environmental and ecological management. That includes the establishment of the conditions and following the trends of biological, physical, or chemical conditions. Furthermore, assessing the influence on the environment, conducting corrective measures, management of ecosystems and wildlife and assessment of the recovery effectiveness and long-term management of natural resources are fundamental as well. The solutions of complex problems, which appear in this surrounding, must include the cooperation between the wide span of managing disciplines and partakers in order to determine the problem clearly, make plans for acquisition of necessary information about the environment, and integrate and implement the necessary strategies of management. The objective is to accomplish ecosystem sustainability. Efficient long-term management requires integration between disciplines and the preparedness of different institutions, agencies, and other partakers on the cooperation in order to achieve prearranged objectives. In short, all types of environment and long-term managements require ecological evaluation as a foundation for making suitable decisions. Ecologic and spatial evaluation of the protected area of the Park show the differences between individual unities inside the Park. The analysis confirmed that the activities in the Park are in accordance with the concept of zoning inside the Nature Park. The results of the research about the influence of performing particular activities on biological and landscape diversity inside the Park clearly show the signs of danger, which threaten the protected area. The causative consequence is the endangerment of flora and fauna. One of the objectives of ecological evaluation is the prevention of the possible threats and detrimental actions in the Park area. The cause of primary protection is the preservation of the ecosystem through the preservation of habitats and biodiversity. Scientific research and tracking nature's condition are necessary in order to prevent possible detrimental influences. In the frame of secondary protection, the activities in the Park are allowed with the use of nature protection measures. In other words, one type of limited management is allowed which does not stop the management, but it acknowledges biological values and specific qualities. The conducted research showed significant progress potential connected to the field of protected area management. People look individually on the development of certain economic activities, which is an incorrect approach. If we analyse positive and negative effects of the certain economic activity, the positive and negative effects of other activities, which appeared as a result of the primary activity, are excluded. For example, the development of tourism and catering include the development of traffic system. Furthermore, certain negative effects of the activities are omitted from the plan of the protected area management, such as negative influences of mining-quarry. As a result, the conducting of ecologic evaluation of a certain area is a good instrument for including numerous elements essential for that area, and they could be analysed from different perspectives. However, the results of the research confirm that protected area is well managed. The activities performed inside the protected area have no influence on biological and landscape diversity of the protected area. Literature used in this paper mentions the need for the employment of additional professionals. The research confirms that thesis and emphasises the need for the employment of professionals in various fields in order to secure quality expert background in the protection and management of the protected area. Since the research was conducted in the institutions and companies whose primary assignment is the preservation of the protected area, any researcher can have suspicions in the results of the research. Therefore, for the future research, it would be preferable to conduct extensive research where the researcher would measure and analyse all positive and negative influences of certain activities on the basis that could define guidelines of conducting sustainable preservation and sustainable management of the protected area.

REFERENCES

Anonymous: ***Studija o utjecaju zahvata na okoliš Žičara Makarska – Biokovo***, IRES EKOLOGIJA d.o.o., 1-20, 2016;

Anonymous: ***Plan upravljanja Parkom prirode Biokovo za razdoblje 2017.-2026.,*** 2017;

Barčić, D., N. Panić: ***Ekološko vrednovanje u zaštićenom prostoru parka prirode Kopački rit,*** Šumarski list br. 7–8, 379-390, 2011;

Costanza R., R. D'Arge, R. De Groot, S. Farber, M. Grasso, B. Hannon, K. Limburg, S. Naeem, R. V O'Neill, J. Paruelo, R. G Raskin, P. Sutton, M. Van den Belt: ***The value of the world's ecosystem services and natural capital***, Nature 387, 253 – 260, 1997;

Cucurachi S., W. L. M. Tamis, M. G. Vijver, W. J. G. M. Peijnenburg, Bolte J. F. B., G. R. de Snoo: ***A review of the ecological effects of radiofrequency electromagnetic fields (RF-EMF)***, Environment International, vol. 51, pp. 116–140, 2013;

Dunda S., T. Kujundžić, M. Globan, V. Matošin: ***Eksploatacija i obrada arhitektonsko-građevnog kamena,*** Rudarsko-geološko-naftni fakultet Sveučilišta u Zagrebu, in Zagreb, 2003;

Filipeti, B.: ***Stanje populacije divokoza (Rupicapra rupicapra L.) na području Parka prirode Biokovo,*** Undergraduate thesis. Veleučilište u Karlovcu, in Karlovac, 2016;

HŠ (Hrvatske šume d.o.o.): ***Lovnogospodarsku osnovu za državno otvoreno lovište broj: XVII/1 - "BIOKOVO",*** professional person Boris Šabić, dipl.ing.šum. (licencija broj Š 708), 2015;

Lynch, K.: ***The Image of the City***, MIT Press, Massachusetts, 1972;

NN: ***Prostorni plan Parka prirode Biokovo***, Hrvatski sabor, Zagreb: Narodne novine d.d., No. 108/2015, 2015;

NN: ***Zakon o zaštiti prirode,*** Narodne novine d.d., No. 80/2013, 2013;

Ozimec, R.: ***Fauna Biokova,*** Graphis d.o.o., 2008;

Petrić, L.: ***Kako turizam razvijati na održiv način u zaštićenim obalnim prostorima? Primjer "Park prirode Biokovo",*** Acta turistica nova, Vol.2 No.1, 5-24, 2008;

Radović, J.: ***Osnovne geografske i biološke značajke Hrvatske,*** **U:** ***Biološka i krajobrazna raznolikost Hrvatske***, Državna uprava za zaštitu prirode i okoliša, in Zagreb, 3-15, 1999a;

Radović, J.: ***Utjecaji gospodarenja prirodnim bogatstvima na biološku raznolikost, U: Biološka i krajobrazna raznolikost Hrvatske***, Državna uprava za zaštitu prirode i okoliša, in Zagreb, 67-73, 1999b.

mr.sc. Damir Ribić, v.pred.
Odjel za ekonomiju,
Visoka škola za menadžment u turizmu i informatici u Virovitici,
Virovitica, Matije Gupca 78,
Phone: 033-492-263, Fax: 033-721-037,
E- mail address: damir.ribic@vsmti.hr;

Ivona Oremuš, mag.oec.
Hrvatski Duhani d.d.
Osiječka 2, Virovitica
Phone: 033/618-143, Fax. 033/730-728
E- mail address: ivonaz1989@gmail.com

PROCUREMENT STANDARDS OF MULTINATIONAL COMPANIES

STANDARDI NABAVE MULTINACIONALNIH KOMPANIJA

ABSTRACT

Procurement as a function of an enterprise is one of the most important segments of business and as such requires special attention. In small and medium-sized enterprises, the procurement function is under the direct control of the owner and is only rarely left to highly experienced employees. With intelligent procurement, significant savings can be achieved, which generates a multiplier effect for the final cost of production. In large companies, the procurement function is also of great importance, and when acquiring and merging large companies, the procurement department is integrated with special attention and is left to experts with extensive experience in that area.
The paper is based on a recent acquisition of the company Hrvatski duhani, sold by ADRIS group to the British company British American Tobacco (BAT), which is characterized as being of significant importance to the entire economy of the Republic of Croatia and beyond.
The aim of the paper is to show the features of the procurement function, as a function of special importance, and, on the example of acquisition of a large Eastern-Croatia company by a larger multinational company, show how the procurement department is to be integrated. It is shown how procedures and authority were implemented and what the effects of such integration were. It indicates the main determinants of procurement function in such large systems and to which activities special attention is paid. The paper gives an analysis of the activities that are left to the local partner, and of those which are determined centrally, without the possibility of influencing them directly.

Key words: *procurement, procurement function, procurement implementation.*

SAŽETAK

Nabava kao funkcija nekog poduzeća jedan je od najvažnijih segmenata poslovanja, te kao takva zahtjeva osobitu pažnju. U malim i srednjim poduzećima funkcija nabave je pod direktnom kontrolom vlasnika i samo se u rijetkim slučajevima prepušta djelatnicima sa izrazitim iskustvom. Inteligentnom nabavom mogu se postići značajne uštede koje u konačnim troškovima proizvodnje stvaraju multiplikativni efekt. U velikim kompanijama, funkcija nabave je također od izrazitog

značaja, a kod akvizicija i spajanja velikih kompanija, odjel nabave se integrira sa posebnom pažnjom i prepušta se stručnjacima sa bogatim iskustvom u tome području.
Rad se temelji na nedavnoj akviziciji tvrtke Hrvatski Duhani, koju je koncern ADRIS prodao Britanskoj kompaniji British American Tobacco (BAT), a koja je okarakterizirana kao izrazito značajna za cjelokupno gospodarstvo Republike Hrvatske, a i šire.
Cilj rada je prikazati značajke funkcije nabave, kao funkcije od posebnog značaja, te na primjeru akvizicije jedne velike kompanije sa područja istočne Hrvatske od strane druge još veće multinacionalne kompanije, prikazati kako izgleda integracija odjela nabave. Na koji način se implementiraju procedure i ovlasti, te koji su učinci takve integracije. Prikazati će se koje su glavne odrednice funkcije nabave u tako velikim sustavima i kojim se aktivnostima posvećuje osobita pažnja. Analizirati će se aktivnosti koje se prepuštaju lokalnom partneru, a koje se aktivnosti određuju centralizirano, bez mogućnosti direktnog utjecaja na njih.

Ključne riječi: *nabava, funkcija nabave, implementacija nabave.*

1. Introduction

The need and the existing trend of cost reduction in contemporary economic systems have set new business conditions in organizations and companies. The main task of logistics is to provide the ultimate consumer with the "right product in the right place at the right time" system. It is the kind of system which begins withproducers purchasing the necessary raw materials and ends with final products on the shelves of the stores. (Ivakovic, Stankovic, Saffron, 2010).
Logistics is an inevitable part of the production process, as a huge support to the process itself, beginning with the purchasing of the material, quality control of the material, internal flows to production sites, production preparation and quality management of production, as well as the overall quality of the company. (Buntak, Šuljagić, 2015: 216)
Although procurement is only one component of the logistics process, it is a platform for innovation and growth and it made great progress at the end of the last century. It has becomean ever more important strategic function with direct influence on company’s costs.
For many companies the role of purchasing has not evolved much beyond the function’s narrow transactional roots, such as a buyer of materials, components and services. Nevertheless, some purchasing and supply-management organizations have been attracting the attention of CEOs by taking the function to the next level, being aware of the strategic benefits that can be achieved through intelligent procurement management.
Spending on purchased goods and services can represent a significant percentage of a company's costs, so purchasing improvements can directly improve the final result. (Kotler, Caslione, 2009)
Procurement is an organizational function and activity of companies and other business organizationswhich includes the purchasing of materials, equipment, services and energy necessary for the realization of the organization’s goals. (Ferišak, 2002: 1) Since there is a multitude of procurement definitions, and different terminology can lead to confusion, they can be divided into two basic types: procurement in the narrow sense and procurement in the broader sense of the word.
From the point of view of the functions that it contains, procurement in the narrow sense implies performing operations in the process of purchasing objects of procurement. These are the activities that have to be performed on a daily basis in order to meet the defined needs and requirements of supplying the business system with objects of adequate quality, in the required amount, at reasonable prices, meeting deadlines, at a specific location and with the appropriate service. (Ferišak, 2002: 1)
While the term procurement in its narrow sense focuses on performing operational tasks and preventing and eliminating problems in the procurement process, procurement in the broader sense includes strategic tasks, which the results and profits of the business organization depend on.

The tasks of procurement in the broader sense are to prepare the best use of the opportunities in the procurement market, as well as to have a positive impact on production consumption, taking environmental protection into account, in order to meet customer requirements and maximize the organization's benefits and profits. (Ferišak, 2002).
Decision-making processesin choosing stores, payments and employment may seem unrelated to growth, but they are most certainly related. What is more, procurement of materials is responsible for about 20 to 60 percent of the cost structure of industrial companies; this figure mightrise to 80-90 percent for wholesalers and retailers. (...) All things considered, quality procurement is a cost lever and possible survival instrument for companies. Furthermore, procurement is vital for ensuring high quality and the use of knowledge of suppliers in the development of new products. (...) When Japanese car manufacturers flooded the Western market in the mid-1980s, they defeated their competitors in all segments: price, quality, customer service, and delivery speed. In response, car manufacturers in the US took the risk of implementing global procurement strategies, which were accompanied by campaigns to raise awareness and serviceability. Cost reduction which they managed to achieve through their procurement initiatives not only helped them regain the lost throne, but also encouraged restructuring of the entire industry. (Graeme, Kroeger, 2009: 111)
The importance of procurement is explicit and it derivesfrom its two sources: cost efficiency and operational efficiency. Managersrequire more from procurement,they expect not only low commodity prices and avoiding problems, but also procurement which will generate profit, not just reduce costs. (Bloomberg, Lemay, Hanna, 2006).
The importance of procurement function in a company can be assessed by the share of material costs in the company's total revenue. The procurement function is particularly important in manufacturing companies where material costs make up more than 60% of total revenue. (Buntak, Šuljagic, 2014: 389)
Austria's consulting company A. T. Kearney, based in Vienna, has invested considerable efforts in exploring the problem of procurement under today's conditions and the possibility of reducing costs in that important business segment. According to the analyzes carried out, 96 to 98% of the procurement costs are related to the objects of procurement, while only 2 to 4% of the costs are related to the procurement service, so every attempt to reduce procurement expense by reducing the cost of the procurement service, which is often applied, might not bring many benefits, andcan cause a lot of damage. (Barić, 2004: 56)
In addition to classic cost reduction activities, procurement employs more advanced cost control techniques which firmly support inter-functional, inter-organizational and interregional internal co-operation and consolidation, and encourage the company's cooperation with its suppliers as well. The function of procurement, which is now responsible for the larger part of the company's expense, has become ever closer to the company's management. (Žibret, 2007: 9)
The value of the share of classical one time businesses based on supply and demand is reduced, and the share of long-term businesses, based on partnerships with suppliers and strategic alliances, is increased. (Kozina, Darabuš, 2013: 72)

2. Goals, principles and implementation of the procurement process

A simple definition of the main goals of the supply chain is to provide good and efficient service to the end user, managing the costs and time of order execution at the same time in order to minimize them (time of order execution refers to the time from the beginning to the end of the process, for example, from determining the inventory level in the distribution center to delivery to the end user). The main task of the supply chain is the optimal supply of the organization and the end user with materials, products, services and information.
Logistics, being part of the supply chain, takes on the role of solving problems related to the flow of goods and information and is responsible for coordinating all processes and activities related to the

flow of goods and information from the supplier to the organization and to the end user. (Macura, Čišić, 2012: 316) Well-developed logistic system in technical and managerial terms is a source of the company's competitive edge and the main factor in its dynamic optimization. (Zekic, 2001: 398)
The procurement structure is implemented according to the following organizational principles (Krpan, Varga, Maršanić, 2015):

- The principle of economy - the effects outweigh the cost of the factors, the output should be larger than the input, task performers should have equal tasks
- The principle of adaptability - the system must be adaptable to changing conditions, procurement organization should be flexible and stable
- The principle of continuity - the qualitative development of the procurement organization over a longer period of time should be taken into account, it is not necessary to abandon old well-functioning solutions that can fit into a new organization
- The principle of transparency - clear and simple procurement, simple structure of responsibility
- The principle of analysis and aggregation (synthesis) - complete tasks should be disintegrated into their constituent parts.

In contemporary business operations, general goals of procurement are to obtain materials and services:

- Of the right quality
- At the right price
- In the right quantity
- At the right time
- From the right source
- With an efficient delivery service
- By achieving maximum possible protection of the environment and natural resources
- With minimum risk
- With the lowest cost
- With good relations with suppliers (Ferišak, 2002: 26)

Bloomberg, Lemay and Hanna emphasize 9 procurement goals (2006):

1. Provide an uninterrupted flow of materials - raw materials, consumables and service needed to operate the organization
2. Keep inventory investment and loss to a minimum
3. Maintain adequate quality standards
4. Find or develop competent suppliers
5. Standardize purchased items where possible
6. Purchase required items and services at the lowest ultimate price
7. Improve the organization’s competitive position
8. Have good relationships with other departments
9. Achieve procurement goals keeping administrative costs down

The scope of procurement can be categorized into four groups (Žibret, 2007): Direct materials - materials directly incorporated in the final product; indirect materials - materials which are required for normal business processes but which are not directly related to the final product; services - refer to a wide range of services directly or indirectly related to business processes and capital expenditures - all investments in equipment, own transport capabilities and buildings.
Provided that the retrospective procurement process is excluded, that is, individual purchases in case of emergency and hastiness, the procurement process comprises the following steps (Bloomberg, Lemay, Hanna, 2006):

- Recognizing a need - department contacts procurement with the aim of purchasing new production equipment. Purchase can be recorded as part of the process of planning of demand for the material; when other needs are identified, other procurement processes may follow.
- Identifying a supplier - it can be simple or complex, depending on the type of procurement as well as the product or service being purchased
- Qualifying and placing an order – follows after identifying the supplier; the procurement department is responsible for verifying whether the order is properly filled out, whether the terms are complied with, and whether the purchased goods are satisfactory
- Monitoring and managing the delivery process - the basic principle of procurement is to deliver the right goods in the right quantity at the right place, otherwise procurement should intervene
- Evaluate the purchase and supplier - Procurement department gathers accumulated experience with some supplier through various transactions and purchases; once a supplier fails to meet the expected task, the procurement department may discuss the problem with the supplier to avoid further problems, or if the problems cannot be solved, find a new supplier.

3. Position and organization of procurement

The position of procurement may be observed from the point of view of the organization structure and the role of procurement in shaping the goals, performing tasks and defining the procurement strategy, as well as from the point of view of procurement integration into the business system of the company. Negative, neutral and positive positions of procurement are distinguished. (Ferišak, 2002: 44)

If users of procurement objects make purchasing decisions without understanding the effects of procurement for the company as a whole, procurement has a negative position. Remaining at such position is unhealthy for the company, but it is not unusual. In many cases large quantities of materials are purchased in order to get discount, without taking into consideration inventory costs and the possibility of spoilage of materials etc.

In the transition period to the positive position, in order to operate efficiently, a neutral position must be prevailed. In the neutral position, procurement is focused on the most efficient material management, primarily taking into account the efficiency and connectivity of all operations. Business executives set up requirements to make business operations as efficient as possible, but they still do not include procurement in the process of product development. In the positive position, procurement becomes equal to other functions in the company and it is integrated in all decision making processes regarding the needs and supply of the company and supporting other business functions of the company. (Ferišak, 2002)

If only one organizational unit is responsible for supply operations, procurement is centralized, and if procurement tasks are performed by various organizational units, procurement is decentralized. The decision on centralization or decentralization of procurement depends on the size of the company, activities of the company, the number and type of activities of production plants, the distance between the plants, the degree of overlapping of the manufacturing activities of the plants, the required types and quantities of objects. (Ferišak, 2002: 361)

Small and medium-sized companies generally organize centralized procurement, characterized by the ability to optimize business operations with materials and merchandise, as well as to create a stronger market position and the possibility to specialize job positions in the procurement department.

Spatial centralization (in which procurement organization is located at one place and performs all procurement tasks) and logical centralization (in which there are multiple dislocated procurement units which assume procurement tasks for the entire company) are distinguished. Decentralization of procurement is reasonable in companies which have plants at different locations and with significantly different assortment of required materials.

Decentralized procurement services deal with the purchase of specific goods/services or only perform operational procurement tasks for the needs of the dislocated plants. There are two types of decentralization: spatial and subject decentralization. Despite the division into centralized and decentralized procurement, large and complex companies often establish a combined (centralized-decentralized) organization system. (Ferišak, 2002)The circumstances of the acquisition are the states of the conditions which affect procurement. These states change under the influence of objective and subjective factors. The spectrum of objective factors is considerably wide, and procurement conditions are especially affected by the procurement market, the sales market, the state of the company, natural conditions, environmental conditions, institutional conditions, economic situation, socio-political situation and public opinion. (Ferišak, 2000: 16)

For the purpose of organizing procurement of the company itself or any other business function, the organization may be divided into formal and informal.

Formal organization is one which is intentionally set up in order to solve tasks and achieve set goals under certain conditions. It is based on a system of norms and regulations. Norms and regulations are logical if employees are aware of them, that is, if they comply with them. In contrast to formal organization, organization which is not determined by the decisions of the executives or the acts of the company, and which is liable and subject to frequent changes is informal organization. (Krpan, Varga, Maršanić, 2015: 329)

The most important criteria for defining the success of procurement are ensuring innovation and growth, continuous optimization of chain value, advanced cost management techniques, risk management and procurement continuity, good relationship between procurement and management, applicable and effective IT support, and talent management. (Žibret, 2007: 27)

4. Risks in the procurement process

The risk issue is very complex and it definitely deserves special attention and analysis. In the procurement process, it is not easy to predict risk and its causes. Therefore, it is essential to reduce the potential danger and damage that may arise. (Perčić, Kozina: 2011)

Procurement decisions are the result of different states and processes involving people who determine the need for goods and services, the suppliers' representatives and the procurement personnel. Even though the aim of procurement is to achieve the most favorable conditions for supplying its own company, in practice realistic market opportunities are rarely used, because there are explicit requirements for specific goods from a particular supplier, obligations to some suppliers, a monopoly, constraints due to political and economic instability, urgent deliveries are required and the like. Because of this, procurement is unable to operate freely, which increases the possibility of different risks and in relation to them, various damages which reduce procurement efficiency, cause inconvenience in the reproduction process and losses.

These potential risks are related to procurement objects and conditions, and may affect only part of the procurement process or the entire process. (Ferišak, 2000). According to Ferišak (2000), there are risks of decision making and risks of realization. Decision-making risks arise because of poor preparation of decisions, or the wrong attitude of decision-makers due to insufficient information which are the result of lack of knowledge or intuition. Unlike the decision-making risks, the realization risks arise from the danger of failing to achieve goals. The causes may be objective (natural disasters, fire, cargo misfortunes, commodity manipulation, social instability, strikes, and war) or subjective (negative attitudes of employees, no motivation, speculations, autocratic leadership, misuse of positions).

Taking into account that procurement risks cannot be eliminated because decisions and their implementation depend on knowledge of facts, attitudes, market situation, the situation in the company and the environment, activities should focus on reducing decision making risks, hedging against risks of realization with objective causes, as well as narrowing subjective risks of realization.

5. Strengthening procurement in order to achieve international competitiveness

The share of procurement costs, that is, the overall share of logistics costs in the total operating costs is high, and in most industries it exceeds 50%. Therefore, it can be concluded that the operational efficiency and cost efficiency of the procurement management, that is, the entire supply chain management, is dominant in determining the profit potential of a company, hence the growth and development potential in the present day operating conditions.[1]
The acquiring of the term ‘’supply chain management’’, instead of the terms ‘’material management’’ or procurement, shows that top executives have recognized the strategic role of suppliers in contributing to a company's long-term success. Raw materials and purchased components make up two-thirds of total cost of manufactured goods. This fact reflects the strategic priority of improving the quality of suppliers. (Vouk, 2005: 1015)

With the strengthening of globalization, special emphasis is placed on aligning the sourcing efforts with corporate strategic goals, as well as laying the foundation for a better approach to procurement at the same time. These are ten key practices for effective purchasing that were developed by some of the world's top purchasing gurus (Kotler, Caslione, 2009):
1. Improve supplier relations - Work with the best suppliers, taking into account local, regional, national and global players; develop an annual cost reduction plan
2. Develop a scorecard for keeping track of suppliers’ service, quality, delivery, and pricing- Record results, understand what is important to suppliers, and make sure they understand what is important to you
3. Obtain the right information – Rightsize the number of suppliers you use, adjust the quantities
4. Create a purchasing staff with the right skills – Find staff with great negotiating skill; business knowledge is also vital, including an ability to understand the business goals of purchasing managers
5. Get the executive team behind purchasing 100 percent - Top purchasing executives should report to the CEO, not be stuck behind another executive; top officials must have a direct line to purchasing so they can understand the impact price increases may have on their business; potential price increases must be offset with decreases in other areas
6. Enforce a preferred supplier list – Purchasing executives should support the purchasing managers when a tough decision must be made on changing suppliers; a preferred supplier list will prevent things from getting out of control
7. Structure teams that are centrally led, but locally implemented – Purchasing executives should gather data in a central point to evaluate total spending by area; Once the total spend is determined, purchasing teams should be created to identify the best suppliers; increase the amount to gain higher volume and lower prices; collaborate with the selected suppliers and listen to their ideas for achieving greater success.
8. Develop strong business negotiation strategies - Ongoing training and organizational development in the area of negotiation is also key to developing a win-win relationship with your supplier network.
9. Use technology to propel ahead of the competition – Use technology that will automate the complex tasks that used to be handled manually; Capture the correct data and study it before you begin a negotiation.

[1] http://www.poslovnaucinkovitost.eu/kolumne/poslovanje/499-ucinkovitost-upravljanja-procesom-nabave (September 26, 2017)

10. Design an incentive program that actually profits the individual and the company – Incentives paid to employees are critical to the ability of organizations to accept and embrace change; what gets done, should be rewarded.

There are four strategic factors that are crucial for the future development of procurement as a strategic corporate function (Žibret, 2007):

- Procurement at the Executive board level - in the average industrial company procurement is responsible for costs that make up approximately half or two thirds of the turnover; the GM / Opel project (global procurement project in the 1990's that actually invented modern procurement) completely changed traditional rules - procurement was finally taken seriously, it acquired a new status, and it is more focused on suppliers
- Termination of traditional relationships with suppliers - the relationship between buyers and suppliers built on long-term cooperation must be examined and upgraded with efficient solutions for better transparency
- Internationalization - procurement cannot be reduced to domestic markets only, international suppliers' markets must be carefully examined
- Improving the process on the suppliers' side - by careful analysis and by improving its processes, suppliers may lower their prices in the long run.

Nowadays, as part of their supply chain program, companies significantly reduce the number of their suppliers. There is a long-term cooperation with suppliers in the entire chain of value creation, in order to rationalize inter-dependent processes. Managers believe in establishing long-term relationships with a few preferred suppliers and do not want to have multiple sources for each purchased product. There has been significant reduction in the number of suppliers in recent years, and what is more, most of these companies have been offering a wider range of products to their customers. (Vouk 2005: 1018)

6. Example of implementation of procurement in British American Tobacco

British American Tobacco is one of the world's leading multinational companies which sells its products in more than 200 markets worldwide, and has over 50,000 employees. BAT took over ‘’Tvornica duhana Rovinj’’ (TDR) together with ‘’Hrvatski duhani’’ and other tobacco and non-tobacco business units from Adris Group at the end of 2015. In July 2017 British American Tobacco acquired the remaining 57.8% of Reynolds American Inc. thus becoming the world's largest tobacco company. By taking over Reynolds, BAT gained direct access to the U.S. market and the opportunity to create a stronger global company.
With the aim of creating a global company with more product categories and simplified regions, the new organization of the Group has become the foundation of BAT's long-term future. As of 2018, there will be 3 new regions:
- Americas and Sub-Saharan Africa
- Europe and North Africa
- Asia-Pacific and Middle East.

Within the region of Europe and North Africa, a special Adria cluster was formed, consisting of three regionally divided markets: the markets of Croatia, Slovenia and Bosnia and Herzegovina, which, together with the markets of Serbia, Montenegro, Macedonia, Albania and Kosovo, form the region of South and Central Europe with its center in Romania.
"Hrvatski duhani" was integrated into British American Tobacco group through the acquisition in October 2015. "Hrvatski duhani" joint-stock company was founded in 2003 by joining Viržinija JSC

(Virovitica), Duhanprodukt JSC (Pitomača) and Rovita JSC (Kutjevo). The company is engaged in the production, purchasing, processing and sale of tobacco, being one of the most important economic entities of Eastern Croatia. There are two types of tobacco that make up the basic business operations of the company: Burley and Virginia. The aim of the company is primarily to supply "Tvornica duhana Rovinj" with the previously mentioned tobacco types, as well as supply other British American Tobacco factories (in Poland, Romania, Hungary, the Netherlands ...), and the smallest part (2-3%) of tobacco is intended for third party customers. There are three locations, that is, three business centers: in Virovitica, Kutjevo and Pitomača, and there are external warehouses in Suhopolje, Bušetina and Korija, too.

The strenght of "Hrvatski duhani" is primarily in the fact that it is the only BAT tobacco production in Europe and it operates with hundreds of subcontractors - agricultural producers from Slavonia and Podravina. Although two years have passed since the acquisition, "Hrvatski duhani JSC" has not yet fully implemented and integrated the mode of operation and standards of a multinational company. In any case, this process is in progress and it requires a certain period of time. Here, the course of integration of the procurement process in the multinational company, that is, the current state of the procurement process, which is only partially integrated and adapted to the multinational company's standards, is described.

Multinational companies may contribute to business efficiency in a country, introduce know-how by demonstrating new technologies and educating workers who are later recruited by local businesses, do away with monopolies and stimulate competition and efficiency, as well as stimulate local businesses to increase their managerial efforts. (Bilas, 2006: 88) According to Habeck, Kroeger and Träm (2000) there are seven strategies for successful post-merger integration: create a clear vision and strategy, quickly impose leadership, merge in order to grow, focus on the results and communicate them, be sensitive to cultural conflicts, communicate throughout the process and manage risk aggressively. These seven rules are particularly applied by British American Tobacco in order to enhance their merger and to comprehend that growth of a company can be achieved not only by merger, but by a combination of a merger and an acquisition, as well as by organizational efficiency and expansion to new markets.

Every company, including "Hrvatski duhani JSC" requires appropriate procurement. Procurement is influenced by the development of some external factors such as political, regulatory, socio-economic and technological factors. The procurement policy in the World Trade Organization or in the EU common market may differ significantly from those outside these frameworks. (Dunković, 2015: 100)

Procurement implies purchasing which can be a very fast and easy process (going to a local store and buying consumable material) or, more frequently, a process which is much more complex, more expensive, longer-lasting and, importantly, essential for the benefit of a company.

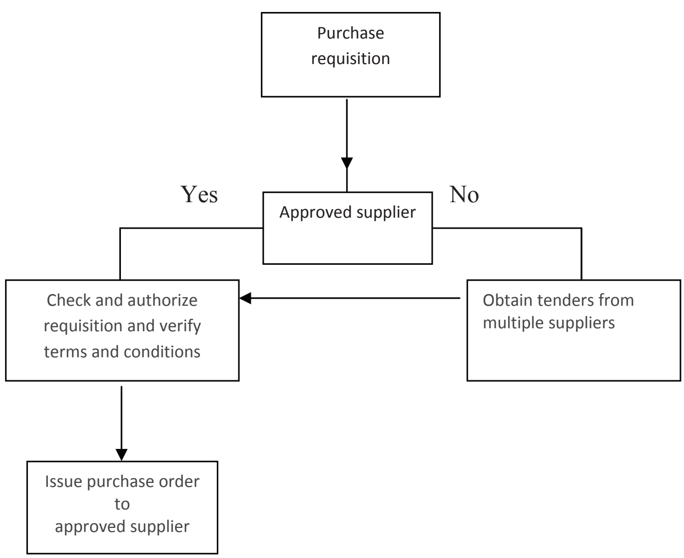
Procurement tasks are the following:

- conduct procurement procedures up to a certain order threshold
- creating suppliers and materials (in SAP)
- creating order forms
- monitoring delivery
- receipt of goods
- complaints
- creating reports on cost, suppliers, savings, and the like.

As it has already been mentioned, ''Hrvatski duhani'' is the only BAT tobacco production in Europe, and moreover, the price of tobacco production is what makes it competitive and distinguishing among other production companies which are part of BAT. The competitive price of production is, among other things, the result of cost-effective and operationally efficient procurement.

The importance of procurement in the tobacco industry is specific. Not only the purchase of materials and services is needed for the production and processing of tobacco, but also the purchase of raw materials for subcontractors is essential, which means that the cost of the procurement material is considerably higher and makes much of the sales value.
The procurement process itself begins when the procurement department receives the purchase requisition and creates a purchase order. It contains the item of purchase with the required specifications, the budgeted cost center and the final delivery date. The requisition provider may be the head of a particular department or person having the authority and permission to send requisitions (regardless of their financial value). Only after the purchase requisition is received, the procurement process can begin, that is, inquiries or invitations to tenders can be issued.The procurement process is shown in Figure 1.

Figure 1 *Procurement process in ''Hrvatski duhani'' (Croatian Tobacco)*



Source: Author

The approved supplier is a frequent supplier, that is, there is a frequent need for its products/ services (such as office supplies), and in that case it is not necessary to send inquiries or tenders every time, as the supplier for the particular material is known in advance. Naturally, this does not rule out the possibility of checking the market and the prices with other suppliers after some time.

In all orders the financial value of which is above 190 MU, it is extremely important to include the central procurement of Tvornica duhana Rovinj (TDR). In such orders, a call for bids (tenders) should be published. A tender or a bid implies a formal call to suppliers with exact specifications of the type of item, place and delivery time. Two rounds and a minimum of three suppliers are mandatory. The second round involves calling all suppliers to lower the bids originally obtained, but it does not exclude the possibility of implementing the BAFO method (Best and final offer method) after the two previously completed rounds.

Orders whose financial value is less than 190 MU imply sending inquiries to potential suppliers. Inquiry letter is a form of a business letter, that is, communication with existing/new suppliers where bids are collected for the same type of product with the same specifications and under the identical commercial terms.

The fore mentioned 190 MU is the sourcing limit, that is, the order threshold, which determines whether the central procurement of Adria cluster will be included in the process of procurement, or it will be conducted by "Hrvatski duhani". There is another order threshold, known as the tender committee limit, which is the limit of British American Tobacco's global management and it is 850 MU.

After the bids are collected (regardless of the amount), the procurement department is obliged to negotiate the best commercial terms and, in agreement with the requisition provider and the required specifications, award the most economically advantageous tender (taking into account the price and quality of the procurement item). After selecting a supplier, it is necessary to create an order in SAP (Systems, Applications and Products) under the agreed terms. SAP is a program used for monitoring the operations of the entire company. SAP is at the centre of technological revolution, being the market leader in enterprise applications in terms of software. By following its strategy, it helps organizations prevent the damaging consequences of complexity and thus creates new opportunities for innovation and growth.[2]

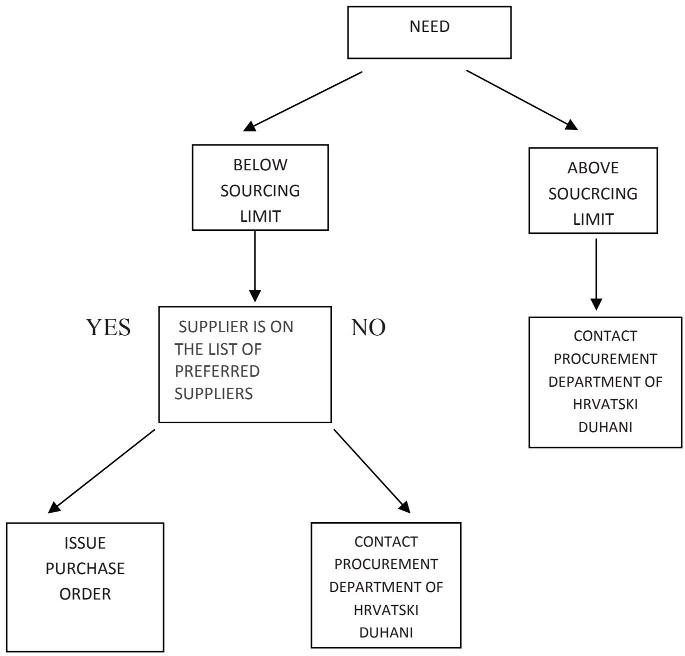
Transactions that do not require a purchase order are utilities, legal fees, marketing fees, leasing accounts, representation expenses, intellectual services (such as consultations, attorney services, translations), and travel expenses. Although there are situations where there is no need for a purchase order, issuing orders is becoming an inevitable step for every product/service and every purchase should be registered through an order form.

From the aspect of a multinational company, procurement should function in a slightly different way. Each department (management, production, development and seed production, controlling and accounting, processing and maintenance, logistics, sales and general and joint affairs) is responsible for the procurement of items that are required by using the list of preferred suppliers listed in SAP, based on the past cooperation. In this case the procurement department serves only as a support and it is involved in the process of purchasing when the amount exceeds 190 MU. Amounts below 190 MU are insignificant and there is no need for the procurement department to participate in the purchase. The task of procurement in a multinational company is primarily to negotiate key suppliers and contractors, to achieve the goals and strategy of the company, to fulfill the planned savings and to negotiate as favorable conditions as possible in order to carry out smoothly all planned operations, as well as to produce without any delay.

A schematic overview of the procurement process in a multinational company is shown in Figure 2:

[2]https://www.sap.com/croatia/about.html (September 14, 2017)

Figure 2 Procurement process in the multinational company



Source: Author

Authors in the field of relationship marketing and co-operative marketing have often emphasized that supplier relationship management is a mirroring process for customer relations management. Guided by this idea, Ervelles and Stevenson pointed out that it is of strategic importance for companies to segment not only the customer market but also the supplier market.
In this respect, they recommend to classify suppliers according to their strategic importance for a company: strategic (important) and transactional (less important) suppliers. Wilson claims that the process of creating value for customers requires co-operation and long-term relationships with suppliers. (Miočević, 2011: 29) "Hrvatski duhani", as an integral part of a multinational company, does not insist on signing the contract, but their purchase is based on purchase orders.
The contract is signed only in case when certain services are being negotiated and it is used in order to ensure the company in case the agreement is not fulfilled or in case of non-compliance with the terms, delivery dates, agreed quality and the like. If the supplier/ contractor should insist, the contract becomes an integral part of the business transactions. The British American Tobacco multinational company puts special emphasis on the postponement of payment for a minimum of 45 days, and preferably for 60 days, and this practice is applied in "Hrvatski duhani" as well.
The financial result that will be achieved by production depends on costs. Revenues also determine the financial result, but they are more dependent on the market. Costs may be directly influenced by the manufacturer.

The ever-increasing market share, intensive mechanization of production, and significant investment in mass production require regular planning, tracking movements and controllof the spending of all economic resources. (Buntak, Šuljagić, 2015: 217)

Given that expectations from procurement are increasing in terms of cost reduction and value creation, procurement is included in the planning process, such as new investments, maintenance of existing plants, performing operations, as well as manufacturing of finalproduct, in this case, processed tobacco. Planning is based on the budgeting of a particular cost center, which is primarily the task of the heads of individual departments, while procurement only provides support. A plan is an integral and internal document of a company that defines the products and services which are planned to be procured according to the requirements of the business plan of the company. In addition to the business plan, procurement is also included in the investment planning process (CAPEX). The strategic and growing importance of procurement is primarily reflected in its involvement in every planning process.

Planning is an essential management function which anticipates tasks, and defines values and quantities. A procurement plan is a procurement management instrument which is used to identify the future status as well as the activities in the realization of the procurement strategy. According to V. Ferišak, the following principles should be complied with in the planning process: economic (productivity, cost effectiveness, profitability), security (risk elimination or risk reduction), methodological (scientific, complexity, reality, continuity and flexibility). (Lacković, 2002: 243)

Types of procurement process may be divided into three different categories: independent procurement, procurement in agreement with the budget holder and the preferred supplier procurement. Independent procurement implies the type of process in which the budget holder, by issuing a purchase requisition, shows the need for the procurement item, without the stipulated framework except for the delivery deadline. Procurement in agreement with the budget holder is a form of procurement process in which the provider of the requisition requires certain specifications, except for the budget and the deadline, often through a sample. The last type of procurement process is a preferred supplier procurement in which a purchase order is sent to the preferred supplier and delivery of the product is tracked. The type of the procurement process that should be avoided and which is not allowed is the retroactive process in which the budget holder purchases something independently and the procurement department only does the formal part, that is, the administration (retroactively issuing an order). As a sort of control according to the policy of a multinational company, no invoice without the specified order number can be paid. In this way, the retroactive procurement process is completely eliminated.

Despite the fact that "Hrvatski duhani" has been part of the multinational company for almost two years, the procurement policy and purchasing itself has not yet been fully implemented or integrated. Procurement is undergoing some changes and there are still activities that are not recognized by multinational politics, and they should be avoided. One of those things is the retroactive procurement process.

It is a matter of time when another change planned for ‘’Hrvatski duhani’’ is going to be implemented, and that is the transition from operating in SAP program to a somewhat different TAO software program.

Another control of all procurement costs is DMS. Document Management System (DMS) is a digital document storage system, both for scanned documents and those created on a computer, in which document storage is well-organized and safe, and documents can quickly and easily be found. Each receipt (after the terms of purchase have been checked) is forwarded to the head of department or to the provider of the purchase requisition for approval. Moreover, the procurement department of ‘’Hrvatski duhani’’ is obliged to submit a monthly report to the Central Procurement Department of the Adria Cluster for the previous month. In that way consumption is controlled, as well as the approved suppliers, and the possibility of misuse of position is eliminated. Regarding cost control or supplier selection, one of the disadvantages, and at the same time the next planned change in operations, is creating suppliers. The procurement department personnel are not allowed to create a new supplier because of the possible conflict of interest. That task should be done by a person who is not involved in the procurement in any way and who should make further checks before qualifying some company as one of the British American Tobacco's suppliers.

The organization of procurement in a multinational company is definitely a formal one, based on a system of norms and regulations. Various audits by global companies are one of the forms of control and, taking into account the individuality of companies, they develop and adjust new organizational structures, organizational solutions and different ways of operating in the procurement process. Furthermore, the model of management which is firmly established in most companies in Croatia, that is, the model in which the top-level management makes decisions, and the low-level management performs operational tasks, in this case is not an option.

Even so, the fact that two procurement officers conduct the entire procurement process in "Hrvatski duhani" reveals more than enough about the process itself. Naturally, it is important to take into account the fore mentioned sourcing and tender committee limits, but these are only the limits that indicate whether the top-level management would be involved in the procurement process by providing support. However, these limits do not exclude the procurement department of "Hrvatski duhani". A democratic style of management pays special attention to interpersonal relationships; indeed, good interpersonal relationships are the foundation of this style of management.

Representatives of this style of management believe that good interpersonal relationships result in greater satisfaction of the employees, which will ultimately result in better performance, that is, greater productivity. (Sikavica, Bahtijarević-Šiber, 2004: 352) This type of leadership characterizes the entire organization, including the procurement department.

Greg Dyke said: "Most of what I actually believe about management comes out of that experience, out of actually understanding the way to run things is with small teams, and involve everybody." (Grout, Curry, 2010: 205)

Although procurement was regarded as a passive business function in the past, nowadays the management of the company expects from the procurement department growth in terms of cost reduction and value creation. In accordance with that, the multinational company has increasingly been giving importance to procurement and monitoring of savings, that is, procurement efficiency. Savings are calculated as the ratio of the lowest bid of the first round as compared to the lowest bid of the second round. There is a certain percentage of savings that procurement is aimed at after all the tenders being carried out, and those relatively small procurement savings lead to a multiple increase in profit.

From the point of view of the organizational structure of procurement, and bearing in mind that "Hrvatski duhani" has three business centers, it may be said that the company's procurement is centralized, that is, spatially centralized, whereby the procurement department in Virovitica conducts procurement for business centers in Pitomača and Kutjevo. However, according to the multinational company’s standards, this way of operating should change, and it is planned to replace it by logical centralization in the near future, whereby some departments/units will assume the procurement tasks themselves for their area and their needs. By doing so, the communication process would be facilitated, and the decision-making process accelerated.

From the point of view of the global company, and "Hrvatski duhani" as one of the British American Tobacco companies, the procurement structure is decentralized owing to the existence of several separated plants at different locations, and mostly due to diverse assortment of materials needed within other Adria cluster companies.

From the point of view of the organization structure and the role of procurement, the procurement of "Hrvatski duhani" is in a neutral position with the tendency of transition to a positive position. This means that procurement activities are carried out on the basis of a procurement plan, the procurement policy is defined, the procurement market is explored, but procurement has not been fully integrated into making all decisions regarding the needs and supply of the company and supporting other operational functions yet. In accordance with the British American Tobacco's standards and despite the fact that it is really difficult to move from a neutral to a positive phase, this will be changed in the near future by making radical changes in the structure and the procurement process, and by completing these changes, procurement will receive all its corresponding and relevant competencies.

Nowadays, the most evident problem in the procurement process is corruption and frequent misuse of position of employees. In Croatia, the area of public procurement is extremely sensitive to corruption and it raises prices in procurement and leads to suboptimal allocation of resources. (Budak, 2016) The situation of corruption in private companies is very similar. However, after joining the global company, it is less likely to happen because the procurement control, as well as the connection to the central, and ultimately global procurement, involve identifying all potential risks in the procurement process and preventing any bad impact of each observed deviation.

Multinational companies are accustomed to doing business in economies whose institutional infrastructure is developed and well-prepared. Whether a multinational company or a country in transition will be able to compete, introduce innovations or grow, depends on their approach to technology and its use. It has been scientifically proven that the transfer of technology is more efficient through the mediation of multinational companies than if the transmission was individual.

There is a steady flow of technology transfer in five mechanisms of any multinational company through documentation, education and training, technical staff exchanges, development research and specialized equipment transfer, and reporting problems. (Dabić, 2007: 33) Changes that have recently been observed in transport logistics and supply chain management have been caused by deep changes in business oparations in the new (virtual) economy.

The main initiators of these changes are technical (technological) progress and the development of information and communication technology, which are also the initiators of globalization of world markets. Global business operations provide the ability to choose business and production locations which will give best profit. In this way, the trend of outsourcing or externalization of their total production or individual parts of the value creation chain of modern companies is in tremendous increase. (Kolaković, 2005: 196)

While traditionally organizations have viewed procurement as a transactional overhead function, today many organizations face incompatible goals of reducing costs while improving performance, so they are taking a closer look at sourcing. (Kennedy, Sharma, 2010)

In order to survive and progress in the world full of competition, it is important to understand the fundamental difference between modern sales and classic persuasion. Nowadays, customers are more sophisticated than they once were. People are also better educated, the offer is bigger, but the competition is sharper and more capable. Bearing all that in mind, it is evident that both sides, both sellers and buyers, have a great influence through negotiation. (Denny, 2010)

In today's highly competitive environment, companies are increasingly dependent on their suppliers. The reasons for this are greater emphasis on key competencies, increased flexibility needs and the desire to share risk associated with developing a new product. As a result, the role of supplier has been changed from a simple transaction based on low cost towards partnership in making strategic decisions. (Vouk, 2005: 1028) In order to achieve greatest profit, rational concept and good supply management has become extremely important for the success and strengthening the competitive advantages of organizations. Modern logistics has been given an increasingly important role in raising the efficiency level. Organizations which do not invest in the development of logistics will lose the battle with the competition. (Funda, 2010: 97) An efficient and effective supply chain system largely depends on the skilled experts within the supply chain at the management and operational level. Human resources within the supply chain are inevitable and represent the basic and added value of the supply chain process. (Macura, Čišić, 2012: 326)

7. Conclusion

Procurement, being a vital part of the supply chain, reflects the strategic importance of suppliers in contributing to the long-term company's success. The traditional understanding of procurement in which companies are oriented to the most cost-effective suppliers has been replaced by a strategy aimed at developing long-term relations with suppliers, creating partnerships, continuous improvement in the quality of goods/services, as well as reducing costs. Globalization has dramatically increased the number of competitors offering similar products, while, opposite to that, a large number of companies have reduced the number of their suppliers as part of their supply chain.
The importance of procurement as a strategic function of a company has been emphasized through this paper and it is presented as a key operative function in the company. This paper is based on the integration and implementation of the procurement process policy of a multinational company in ''Hrvatski duhani'', one of the largest companies in Virovitica-Podravina County, taken over by Adris Group. Progress is visible not only in procurement, but also in all segments of business operations. Over the past two years, since it was taken over by the multinational company, there have been drastic changes, but the biggest and most significant changes are in progress at the moment, or they are yet to take place. Although some negative influences existed during the takeover, the desire to grow and progress orientation eventually attributed to impressive results. The strength of global BAT group ensures Croatian tobacco producers to expand from domestic market, and enables safe export to the very demanding Western markets through the system of ''Hrvatski duhani''.

REFERENCES

BOOKS

Bloomberg, D.J., Lemay, S., Hanna, J.B. (2006); Logistika, Zagreb, Mate.
Denny, R. (2010): Super prodavač – putokaz za izvrsnu profesionalnu prodaju, M.E.P. Consult, Zagreb.
Dunković, D. (2015): Poslovno upravljanje u trgovini, Ekonomski fakultet u Zagrebu, Zagreb.
Ferišak, V. (2000): Elementi managementa nabave, 2. izdanje, Trešnja, Zagreb.
Ferišak, V. (2002): Nabava: politika – strategija – organizacija – management, VF, Zagreb.
Graeme, K.D., Kroeger, F. (2009): Rastegni se! Kako velike kompanije mogu rasti u dobrim i lošim vremenima, Mate d.o.o., Zagreb.
Grout J., Curry L. (2010): 12 slavnih menadžera - poduzetnika; M.E.P. Consult, Zagreb.
Ivaković, Č., Stanković, R.,Šafran, M. (2010): Špedicija i logistički procesi, Fakultet prometnih znanosti, Zagreb.
Kennedy, R.E., Sharma, A. (2010): Premještanje usluga – Iskorištavanje optimalne vangranične prilike, Mate d.o.o., Zagreb.
Kotler, P., Caslione, J.A. (2009): Kaotika – upravljanje i marketing u turbulentnim vremenima, Mate d.o.o.
Lacković, Z. (2002): Malo poduzeće u uvjetima tranzicije, Veleučilište u Požegi, Požega i Osijek.
Sikavice, P., Bahtijarević-Šiber, F. (2004): Menadžment: teorija menadžmenta i veliko empirijsko istraživanje u Hrvatskoj, Masmedia, Zagreb.

Žibret, B. (2007): Strateška nabava: put do ostvarenja međunarodne konkurentnosti, Mate d.o.o., Zagreb.

JOURNAL ARTICLE

Barić, G. (2004): Strateška nabava i gospodarski subjekti, Polimeri, časopis za plastiku i gumu, Vol 25, No. 1-2.
Buntak, K., Šuljagić, N. (2014): Ekonomika logističkih funkcija u poduzeću, Tehnički glasnik, Vol 8, No 4
Buntak, K., Šuljagić, N. (2015): Ekonomika logistike proizvodnje, Tehnički glasnik, Vol 9, No 2
Budak, J. (2016): Korupcija u javnoj nabavi: Trebamo li novi model istraživanja za Hrvatsku?, Ekonomski pregled, Vol 67, No 4
Funda, D. (2010): Sustav upravljanja kvalitetom u logistici, Tehnički glasnik, Vol 4
Krpan, LJ., Varga, D., Maršanić, R. (2015): Organizacijska struktura nabave u poslovnim procesima, Tehnički glasnik Vol. 9, No. 3
Kozina, G., Darabuš, M. (2013): Uloga logističke distribucije u poduzeću Vitis d.o.o. – Varaždin, Tehnički glasnik Vol 7, No. 1
Macura, A., Čišić, D. (2012): Logistički koordinator kao sastavni dio procesa dobavnog lanca, Pomorstvo, Vol 6, No 2
Miočević, D. (2011): Upravljanje odnosima s ključnim dobavljačima na primjeru velikih i srednjih prerađivačkih poduzeća, Tržište, Vol 23, No 1
Perčić, M:, Kozina, G. (2011): Značaj logističkog procesa nabave u poslovnom sustavu, Tehnički glasnik, Vol. 5, No. 1
Vouk, R. (2005): Uloga menadžmenta opskrbnog lanca u povećanju konkurentnosti poduzeća, Ekonomski pregled, Vol 56, No 11
Zekić, Z. (2001): Logistički model dinamičke optimizacije poslovanja poduzeća, Ekonomski pregled, Vol 52, No 3-4

BOOK OF PROCEEDINGS

Bilas, V. (2006): Poticanje inozemnih izravnih ulaganja i konkurencija među zemljama, Zbornik radova Ekonomskog fakulteta u Zagrebu 4.(88-99), Zagreb, Ekonomski fakultet u Zagrebu
Dabić, M. (2007): Uloga multinacionalnih kompanija u promicanju tehnološkog razvoja zemalja u tranziciji, Zbornik Ekonomskog fakulteta u Zagrebu, 5. (29-42), Zagreb, Ekonomski fakultet u Zagrebu
Kolaković, M. (2005): Novi poslovni modeli u virtualnoj ekonomiji i njihov utjecaj na promjene u transportnoj logistici i upravljanju lancem opskrbe, Zbornik Ekonomskog fakulteta u Zagrebu, 3. (195-210), Zagreb, Ekonomski fakultet u Zagrebu

INTERNET RESOURCE

https://www.sap.com/croatia/about.html (accessed 14/9/2017)
http://www.poslovnaucinkovitost.eu/kolumne/poslovanje/499-ucinkovitost-upravljanja-procesom-nabave (accessed 26/9/2017)

Bahrija Umihanić, PhD., Full professor
Faculty of Economics, University of Tuzla
Univerzitetska 8, 75000 Tuzla, BiH
Phone: +387 35 320 820, Fax: +387 35 320 821
E-mail address: bahrija.umihanic@untz.ba

Adisa Delić, PhD., Associate professor
Faculty of Economics, University of Tuzla
Univerzitetska 8, 75000 Tuzla, BiH
Phone: +387 35 320 820, Fax: +387 35 320 821
E-mail address: adisa.delic@untz.ba

Isada Mahmutović, mag.oec., PhD. student
Elektroremont d.d., Banovići
Patriotske lige 16, 75290 Banovići,
Phone: Tel: +387 061 163 877
E-mail address: mahmutovic.isada@hotmail.com

THE ROLE OF INTERNAL RESOURCES IN BUILDING COMPETITIVENESS OF BIH COMPANIES

ULOGA INTERNIH RESURSA U IZGRADNJI KONKURENTNOSTI BOSANSKOHERCEGOVAČKIH PREDUZEĆA

ABSTRACT

The aim of this paper is to specify the resources that the companies in Bosnia and Herzegovina (BiH) use to build their market competitiveness. The idea that internal resources (tangible, intangible, and human) have become more significant than the industrial structure in gaining and keeping competitive advantage of a company has had its full affirmation since the 1990s onwards. This has been prompted by ever growing complexity and hyper changeability of the environment, which have limited the possibility for successful strategic positioning and making advantages based on the usage of unique positions in the industrial and macro environment. That is why in this paper particular attention is given to the analysis of the commitment of BiH companies to base their competitiveness and strategic operations on their own internal potentials. The paper presents the results of the empirical research that included 100 companies in BiH surveyed by means of a questionnaire with the content created in line with the research goals. The research results indicate that BiH companies build their competitiveness, to a significant degree, on human and intangible resources, which is in accordance with the recent tendencies of gaining and keeping competitive advantage under the contemporary business conditions. However, the research results imply that when compared to other companies that offer similar products and/or services, the companies surveyed do not have the strategic orientation, which can significantly reduce their success on the market. Hence the paper provides specific guidelines that might serve as a significant input to the management of BiH companies in generating their solutions for the improvement of their competitiveness.

Key words: *resource approach to company's strategy, internal resources, BiH companies, competitiveness.*

SAŽETAK

Svrha ovoga rada je da ukaže na kojim resursima bosanskohercegovačka preduzeća dominantno grade svoju konkurentnost na tržištu. Ideja da su unutrašnji resursi (opipljivi, neopipljivi i ljudski) postali značajniji od industrijske strukture za ostvarivanje i održavanje konkurentske prednosti preduzeća doživljava svoju afirmaciju od 90-tih godina pa na ovamo. Tome je doprinijela sve veća kompleksnost i hiperpromjenljivost okruženja, koja je ograničila mogućnosti uspješnog strateškog pozicioniranja i ostvarivanja prednosti na temelju iskorištavanja jedinstvenih pozicija u industrijskoj i makro okolini. Otuda je u ovome radu posebna pažnja posvećena analizi opredjeljenosti bosnaskohercegovačkih preduzeća da svoju konkurentnost i strateško djelovanja temelje na vlastitim unutrašnjim potencijalima. Rad obuhvata rezultate empirijskog istraživanja kojim je obuhvaćeno 100 preduzeća u Bosni i Hercegovini, pri čemu je korišten anketni upitnik čiji je sadržaj kreiran u skladu sa ciljem predmetnog istraživanja. Rezultati istraživanja pokazuju da bh. preduzeća svoju konkurentnost u velikoj mjeri temelje i na ljudskim i nematerijalnim resursima, što je u skladu sa novim tendencijama izgradnje i očuvanja konkurentskih prednosti u svaremenim uslovima poslovanja. Međutim, rezultati istraživanja impliciraju da ova preduzeća nemaju jasno strateško opredjeljenje, što može značajno ograničiti njihovu uspješnost na tržištu u usporedbi sa drugim preduzećima koja nude slične proizvode i/ili usluge. Otuda rad sadrži i konkretne smjernice koje bi mogle biti značajn input menadžmentu bosanskohercegovačkih preduzeća u generisanju rješenja za poboljšanje njihove konkurentnosti.

Ključne riječi: *resursni pristup strategiji preduzeća, interni resursi, bosanskohercegovačka preduzeća, konkurentnost.*

1. Introduction

Competitive advantage, defined as a unique position a company develops when compared to its competitors (Bamberger, 1989), is the basis that defines company's success or failure. Companies build their competitive advantage by developing the available resources and using their own strengths (for example, cost efficiency, diversification, flexibility, responsiveness, good reputation, etc.). Competitive strategy is directed towards establishing profitable and sustainable position despite the forces that define industrial competition (Porter, 2008, 21). For the most of the 20th century, company's competitiveness was based on material assets such as land, equipment and money, as well as intangible assets such as brands, image, and customer loyalty. The central task of managers in this period was related to efficient distribution of labor and capital. Unlike this, in the first decade of the 21st century, 50% of the GDP in developed economies was based on human potential, their knowledge, competences, and skills. This tendency of recognizing the importance of intellectual property and knowledge is even more emphasized nowadays. Today, competitiveness is based on efficient knowledge management, rather than on the efficient control of physical and financial assets (Dess, Lumpkin, Eisner, 2007, 124). Efficient human resource management (HRM) becomes one of strategically most significant segments of contemporary companies. In order to build and keep their competitive advantage on the global market, companies need to constantly enhance the policies and practices of attracting, developing, keeping, and improving human resource efficiency. The fact that organizational performances and competitiveness are directly related to successful designing and implementing HRM in practice, is confirmed by the results of many studies (Armstrong, 2007, 40-41). To what extent BiH companies base their competitiveness on internal resources and whether these companies recognize the importance of human resources in building their competitiveness shall be the subject of analysis in this paper.

2. Theoretical background

The literature in the field of strategic management differentiates two approaches to company structure: the structuralist approach and the resource approach. The core of the structuralist approach to company's strategy lies in the relationship between company's environment, behavior and performances. This approach was redefined and improved by Porter in the 1980s. This author sees the essence of company's strategic behavior in connecting the company with the most important element of its environment – the industry, whereby building sustainable competitive advantage within the industry is the foundation of its success. According to the structuralist approach, company's competitiveness is based on external sources (Delić, Smajlović, 2014, 364-366).

However, the increase in complexity and changeability of external environment reduced the possibility for quality strategic positioning and gaining advantage based on unique positions in the industry and macro environment (Tipurić, 1999, 3). Consequently, the idea started gaining ground that internal resources are much more important than the industrial structure in building and keeping competitive advantages and that contemporary companies should base their competitive advantage and strategic actions on their own internal potentials (Delić, Smajlović, 2014, 364-366). The idea that internal resources are significantly more important than the industrial structure in building and keeping company's competitive advantage is based on the so called resource theory (model) of company's strategy *(The Resource – Based View of the Firm)* (see more in Tadić, 2002, 3-100). According to this approach, one of the key internal supports for building competitiveness are human resources expressed in the form of employees' knowledge and skills (Table 1). Apart from human resources, companies also have tangible resources related to all forms of material and financial resources as well as intangible resources related to organization's reputation, organizational culture and the so called technological resources (patents, authorship rights, business secrets, know-how, etc.).

Table 1 *The Resource – Based View of the Firm*

Author and Year	Focus of Study	Findings	Gaps	Contribution of this Study
Wernerfelt (1984)	Relationship between critical resources and Corporate strategy	Companies were seen as a collection of resources, rather than holding market positions in the development of strategy	There was no link between critical resources and performance of organizations	Link the critical resources to corporate strategy and performance
Barney (1991)	Firm resources and sustained competitive advantage	Competitive market imperfections, market entry barriers and other constraints require differing company resources	The immobility of resources for the development of successful strategy was not addressed	Identify the resources in an organization that lead to successful strategy
Rumelt (1984)	Strategy theory of the organization	Importance of resources in strategy development	Required to have ascertained the impact of strategic resources on strategy development	Link importance of strategic resources on strategy development and organization performance
Prahalad and Hamel (1990)	Core competencies of the corporation	Corporation rely on internal core competencies for competitive advantage	Did not link the context of the core competencies on	Show the contextual relationship of core competencies of

Author and Year	Focus of Study	Findings	Gaps	Contribution of this Study
			competitive advantage	strategic resources and performance
Peteraf (1990)	Competitive advantage	Identified four distinguishing features of resources	Did not link the features to critical resources	Link the strategic resources to performance
Amit and Shoemarker (1993)	Strategic resources and organizational rent	Explored processes through which resources are developed	Did not link the process to internal competencies	Link processes of strategic resource development to performance of organization
Teece and Pisano (1994)	The dynamic capabilities of firms	Explored the changing nature of resources	Did not link the changes in competitive advantage	Highlight the relevance of change in resources to the environmental and performance

Source: Musebe Achieng, E. (2012), Resources, Capabilities, and Competitive Advantage, School of Business, University of Nairobi, p. 22.

One of the most important concepts in the resource theory is the "*core competencies*" concept founded and advocated by Hamel and Prahalad. These authors define core competences as the field of specialized expertise which comes as a result of a harmonizing flow of technology and business activities (Hamel, Prahalad, 1994, 250). This is actually a complex and integrated set of complementary technologies, knowledge, and skills, which ensures superior coordination of business activities and superior usage of available resources and is a source and foundation of company's competitive advantage. Porter criticizes the resource approach to strategy and especially the concept of core competences as he believes the approach is not applicable to hyper-changeable and hyper-competitive environment in which modern companies operate (see more in (Delić, Smajlović, 2014, 364-366).

Regardless of certain disadvantages to the resource approach strategy, while building their competitiveness companies increasingly rely on internal resources, primarily human resources as they would be most difficult for competitors to imitate and copy. Human resources fulfill certain criteria of resource uniqueness, which is the assumption for building sustainable competitive advantage, as follows: *1) Creating additional value* /resources should enable enterprise to use external opportunities and neutralize threats from the surrounding/; *2) Rarity* /resources should ideally be unique if none of the enterprises possesses them/; 3) *Inability to imitate* /in order for resources to be unique, competitors should not be able to copy, imitate or develop a product or service that would be a replacement to that same product/; 4*) Ability to use* /for resources to be completely used and to achieve competitive advantage, enterprises must have adequate structure, systems, policies, procedures, and processes/ (Barney,1991, 99 -120; DeSaa-Pe´rez, Garcı´a-Falco´n, 2002). Most authors agree that in order for human resources to be the basis for building competitiveness or the foundation of company' strategic orientation, they need to be strategically managed (Khandekar, Sharma, 2005).

3. Research methodology

3.1. Sample characteristics

The empirical research, whose results shall be presented in the remaining part of the paper, included a total of 100 BiH companies. Data collection for the empirical part of the research was made by means of a questionnaire whose content is in line with the research subject. The questionnaire included the closed questions with the number of answers offered and the intensity questions (with the application of the Likert-type scale). The questionnaires were filled in by general managers or the members of company's management team. The collected data was processed by using the appropriate statistical methods and techniques of data processing. The companies included in the sample were selected in line with the territorial dispersion criterion so as to provide the empirical research to cover the companies in entire BiH: BiH Federation (FBiH), Republic of Srpska (RS), and Brčko District (BD). The average number of employees in the surveyed companies was 172.

3.2. Research results

The research results indicate that the competitive advantage of BiH companies is statistically significantly based on financial, physical, human, intangible and structural-cultural resources, as showed in Table 2. What follows is the analysis of the difference in preferences between financial, physical and structural-cultural resources on the one side and human resources on the other. Table 3 shows managers' attitudes regarding the characteristics of the resources available to their companies, in the context of the resource potential to generate sustainable competitive advantage.

Table 2 *Resources mostly used as the basis of competitive advantage of your company*

	Negative attitude		Positive attitude			
	n	%	n	%	χ^2	p
Competitive advantage of your company is largely based on financial resources	20	20.2%	79	79.8%	**35.16**	**0.000**
Competitive advantage of your company is largely based on physical resources	14	14.1%	85	85.9%	**50.92**	**0.000**
Competitive advantage of your company is largely based on human resources	9	9.0%	91	91.0%	**67.24**	**0.000**
Competitive advantage of your company is largely based on intangible resources	25	25.3%	74	74.7%	**24.25**	**0.000**
Competitive advantage of your company is largely based on structural-cultural resources	18	18.2%	81	81.8%	**40.09**	**0.000**

Source: Authors

χ^2 –The value of the chi square test, p-the probability of rejecting the null hypothesis
Negative attitude=Disagree + Strongly disagree
Positive attitude=Somewhat agree + Agree + Strongly agree

Table 3 *Characteristics of the resources on which your company builds its competitive advantage*

	Negative attitude		Positive attitude			
	n	%	n	%	χ^2	p
The resources on which your company builds its competitive advantage contribute to the increase of company's value in such a way that they provide the usage of external opportunities and neutralization of external threats	14	14.4%	83	85.6%	**49.08**	**0.000**
The resources on which your company builds competitive advantage are rare and competitors do not possess them	26	26.5%	72	73.5%	**21.59**	**0.000**
The resources on which your company builds its competitive advantage are difficult to imitate (copy) or replace by some other resource	28	28.0%	72	72.0%	**19.36**	**0.000**

	Negative attitude		Positive attitude			
	n	%	n	%	χ^2	p
The resources on which your company builds its competitive advantage are such that a company is able to use their potential in building sustainable competitive advantage	17	17.0%	83	83.0%	**43.56**	**0.000**

Source: Authors

χ^2 –The value of the chi square test, p-the probability of rejecting the null hypothesis
Negative attitude=Disagree + Strongly disagree
Positive attitude=Somewhat agree + Agree + Strongly agree

The research results indicate that BiH companies base their strategic orientation on efficiency (orientation to cost leadership strategy) but at the same time they show strategic orientation differentiation (marketing differentiation and innovation differentiation). The results are given in Table 4. Porter believes that not a single company can be successful if it attempts to perform all the tasks for all the customers. He suggests that managers need to choose the strategy that would give the company its competitive advantage which can be based on the lowest prices or company's significant difference when compared to all its other competitors. Which of these strategies would managers choose depends on company's strength, core competences and its competitors' weak spots. For a situation when a company is not able to achieve cost efficiency or differentiation advantage, Porter uses a symbolic expression "*stuck in the middle*" to describe companies which have many difficulties in reaching long term success (Robbins, Coulter, 2005, 194 in Šehić, Delić, 2012, 274). By analyzing the research results in this context, it can be concluded that the lack of a clear strategic orientation of BiH companies can be one of significant factors in limiting their more successful market positioning.

Table 4 *Strategic orientation of BiH companies*

	Negative attitude		Positive attitude			
	n	%	n	%	χ^2	p
Low cost owing to natural resource availability	37	36.6%	64	63.4%	**7.22**	**0.007**
Low cost of labor force	41	41.0%	59	59.0%	3.24	0.072
Low cost based on efficient manufacturing	22	21.8%	79	78.2%	**32.17**	**0.000**
Product design and image	16	16.5%	81	83.5%	**43.56**	**0.000**
Quality of products/services	11	11.0%	89	89.0%	**60.84**	**0.000**
New products and innovative ways of post-sale support offered	14	14.1%	85	85.9%	**50.92**	**0.000**
Swift response to demands and requirements of customers/clients	14	14.0%	86	86.0%	**51.84**	**0.000**
Significant investment into marketing activities	27	26.7%	74	73.3%	**21.87**	**0.000**

Source: Authors

χ^2 –The value of the chi square test, p-the probability of rejecting the null hypothesis
Negative attitude=Disagree + Strongly disagree
Positive attitude=Somewhat agree + Agree + Strongly agree

In order to test the statement that the companies in BiH largely build their competitiveness on human and intangible resources in comparison to physical, financial and structural-cultural, a paired sample *t* test is used in the remaining part of the paper.
Table 5 shows the results of the comparison of human resources as the basis for building competitiveness of BiH companies on the one side and financial, physical and structural resources on the other side. The results point to the conclusion that the statistically significant level of companies uses human resources as the basis for building competitiveness when

compared to other internal resources of the company such as financial, physical, and structural-cultural.

Table 5 *Human vs. other internal resources as the basis for building competitiveness of BiH companies*

Statistical parameters	Competitive advantage Comparison I.		Competitive advantage Comparison II.		Competitive advantage Comparison III.	
	Financial resources	Human resources	Physical resources	Human resources	Structural-cultural resources	Human resources
Mean	3.29	3.97	3.61	3.97	3.42	3.95
n	99	99	99	99	99	99
SD	1.003	1.035	0.977	1.035	0.980	1.034
t	-5.68		-3.37		-6.07	
p	0.000		0.001		0.000	

Source: Authors

Mean-arithmetic mean, n-number of subjects, SD- standard deviation, t- value of the paired sample t test, p- the probability of rejecting the null hypothesis with 5% risk

4. Conclusion

In the hyper-changeable and hyper-competitive contemporary environment, when looking for the sources to achieve sustainable competitive advantages companies increasingly turn to internal resources. Apart from being exposed to the complexity and changeability of the external environment on a global level, BiH companies also face the problems generated by an unfavorable political, legal, economic, and the entire social atmosphere (high unemployment rate, brain drain, undeveloped culture of dialogue, etc.) as well as the problems of post transition reality (inherited "bulky" hybrid structures, rigid organizational culture, inadequate design of work places, lack of precisely defined authority and reliabilities, etc.). Bearing in mind the context in which BiH companies operate, it can be stated that the results of the empirical research presented in this paper point to the fact that the managers of BiH companies seem to have developed awareness of the importance of internal resources in building and keeping competitive advantage on the market, which is rather encouraging. However, what is worrying from the strategic management point of view is the fact that the research results indicate that BiH companies base their strategic orientation on efficiency (orientation to cost leadership strategy) while at the same time showing their strategic orientation differentiation (marketing differentiation and innovation differentiation). This situation of unclear strategic orientation brings companies in the position which Porter named "*stuck in the middle*" to describe the companies which have many difficulties in reaching long term success. Hence it can be concluded that the managers of BiH companies should pay particular attention to strategic profiling and in that way ensure more successful market positioning. Based on the research results, it can be concluded that a statistically significant level of BiH companies uses human resources as the basis for building competitiveness when compared to other internal resources of the company such as financial, physical, and structural-cultural. This is indeed a positive indicator that BiH companies increasingly recognize the importance of human resources in the context of building competitiveness. However, human resources per se are not the resources for the company, they are human potentials: education, knowledge, skills, competences, motivation, quality communication, etc. That is why the managers of BiH companies should invest more effort in building intellectual capital, which implies investment into education, training and development, quality staff employment, establishment of the adequate system of labor performance evaluation, ethical treatment of employees, adequate material and non-material rewards, inclusion of employees in decision making processes, etc. These statements and guidelines should serve as one of significant inputs of the management system of BiH companies. Some future research in this field should focus on human potential management in the context of BiH companies' competitiveness. Future studies should include a larger sample and a more systematic comparative analysis of the role of internal resources in building competitiveness in different industries.

REFERENCES

Armstrong, M. (2007): ***Strategic Human Resource Management***, Kogan Page, London and Philadelphia

Bamberger, I. (1989): ***Developing Competitive Advantage in Small and Medium-Size Firms,*** Long Range Planning, Oxford, Vol. 22, No. 5, pp. 80-88.

Barney, J. B. (1991): ***Firm Resources and Sustained Competitive Advantage***, Journal of Management, 17, pp. 99 -120.

Delić, A., Smajlović, S. (2014): ***Developing the Function of Human Resource Management with a View to Building Competitive Advantage of Enterprises in Bosnia and Herzegovina***, Econviews, No. 2/2014. pp. 363-378.

DeSaa-Pe´rez, P., Garcı´a-Falco´n, J. (2002): ***A Resource-Based View of HRM and Organizational Capabilities Development***, International Journal of HRM, Vol. 13 No. 1, pp. 123-40.

Dess, G.G., Lumpkin, G.T., Eisner, A.B. (2007): ***Strategic Management***, DataStatus, Belgrade.

Hamel, G., Prahalad, C. K. (1994): ***Competing for Future***, Harvard Business School Press.

Khandekar, A., Sharma, A. (2005): ***Organizational learning in Indian organizations: a strategic HRM perspective***, Journal of Small Business and Enterprise Development, 12, 2, pp. 211-226.

Musebe Achieng, E. (2012): ***Resources, Capabilities, and Competitive Advantage***, School of Business, University of Nairobi.

Porter, E. M. (2008): ***Competitive Advantage,*** Masmedia, Zagreb.

Robbins, S. P., Coulter, M. (2005): ***Management,*** Pearson Education, Inc., Upper Saddle River, New Jersey.

Tadić, T. (2012): ***Comparative Analysis of Structural and Resource Approach to the strategy of the Enterprise***, Master's theses, Faculty of Economics Zagreb, pp. 3-100.

Tipurić, D. (1999): ***Core Competences of the Enterprise***, Business Analysis and Management, Jan/Feb.

Assist. Prof. Anna Zielińska-Chmielewska, PhD.
Poznań University of Economics and Business
Faculty of Commodity
Al. Niepodległości 10, Poznań, Poland
Phone: 0048 606 65-88-90;
E-mail address: anna.zielinska@ue.poznan.pl

Professor Ing. Luboš Smutka, PhD.
Czech University of Life Sciences Prague
Faculty of Economics and Management
Kamýcká 129, Prague, the Czech Republic
Phone:00 420 224 382 076;
E-mail address: smutka@pef.czu.cz

THE MEASUREMENT OF PROFITABILITY LEVEL OF CHOSEN FOOD PROCESSING ENTERPRISES. THE CASE OF POLAND.

MJERENJE RAZINE PROFITABILNOSTI ODABRANIH PODUZEĆA ZA PRERADU HRANE. SLUČAJ POLJSKE.

ABSTRACT

The issue of profitability of food processing enterprises is ever-present because of the continuous process of improving the quality standards of raw materials, complying with the procedures in food production, introduction of modern production technology and, above all, due to the large number of actors who are competing for customers in the domestic and foreign food market.In the coming years Polish food processing sector will be facing significant challenges with the inevitable slow and gradual decrease in the cost advantages of raw materials' prices, as well as ready-made meat products. Enterprises, as they constitute the majority in manufacturing business, in the long run will need to determine the efficiency, and hence competitiveness of Polish food processing sector.The aim of the paper is to review the domestic and foreign literature in terms of classification and systematization of the concept, and presenting the results of measuring the profitability of food processing enterprises exemplified on meat processing enterprises in Poland. In the theoretical part of the study methods of descriptive, comparative, deductive and synthetic analysis are used. In the practical part of the study appropriately selected, advanced and highly-detailed measures and financial ratios of financial analysis are performed.The results of the analyses are based on the results of authors' own calculations, as well specific findings from business practice both from inland and abroad.

Key words: *efficiency, effectivity, profitability measurement, food processing, Poland.*

SAŽETAK

Pitanje profitabilnosti poduzeća za preradu hrane uvijek je prisutno zbog kontinuiranog procesa poboljšanja standarda kvalitete sirovina, poštivanja postupaka u proizvodnji hrane, uvođenja moderne tehnologije proizvodnje i prije svega zbog velikog broja sudionika koji se natječu za kupce na domaćem i stranom tržištu hrane.
U narednim godinama poljski sektor prerade hrane bit će suočen sa značajnim izazovima zbog neizbježnog sporog i postupnog smanjenja troškovne prednosti cijena sirovina, kao i gotovih mesnih

proizvoda. Poduzeća, koja čine većinu u proizvodnom sektoru, dugoročno će morati utvrditi učinkovitost, a time i konkurentnost poljskog sektora prerade hrane.
Cilj rada je razmotriti domaću i inozemnu literaturu u smislu klasifikacije i sistematizacije koncepta te prezentirati rezultate mjerenja profitabilnosti poduzeća za preradu hrane, na primjeru poduzeća za preradu mesa u Poljskoj. U teorijskom dijelu studije koriste se metode deskriptivne, komparativne, deduktivne i sintetske analize. U praktičnom dijelu studije provedene su odgovarajuće odabrane, napredne i vrlo detaljne mjere i financijski pokazatelji financijske analize.
Rezultati analiza temelje se na rezultatima vlastitih izračuna autora, kao i specifičnih nalaza iz poslovne prakse kako iz zemlje tako i izvan nje.

Ključne riječi: *učinkovitost, djelotvornost, mjerenje profitabilnosti, prerada hrane, Poljska.*

1. Introduction

Food economy is one of the most important sectors of economy in every country because of its significance for production and employment, but above all, in connection with the supply of food to the society. Food economy is a collection of many different economic systems that influence organizational structure, methods of operation and financial performance of the production chain actors. Entities in the food processing sector operate in an environment with high exposure to the risk of business activity (Zielińska-Chmielewska A., 2017).
The immediate inspiration to tackle the problem of effectiveness was the Poland's accession to the European Union and the resulting need to adapt this branch of Polish food economy to the level of production and processing which would allow it to compete internationally. Polish meat sector is of great importance from the point of view of revenues generated in GDP, total employment in the economy and the number of business entities.

The paper presents a research hypothesis that the financing strategy of the meat processing enterprises in terms of profitability depend on the level of return on equity, which has an impact on the efficiency of the examined companies. The paper consists of 6 sections: *Introduction (1)*, which defines the problem, subject matter and puts forward the hypotheses of the research, *Literature reviewon current state of knowledge and research on effectivity (2)*, presentation of *Methodology, empirical data and analysis(3)*subjected to re-testing undertaken by the authors, containing documentation background on *The concept of financial efficiency in terms of using financial ratios(3.1)* and *Estimation of profitability strategies in analyzed meat processing enterprises (3.2)*,*Results and discussion (4)* focused on explaining its economic significance and insights, and *Conclusion(5)*supplemented by explanation of the hypotheses, assessment of research results, attention to problems which occurred and limitations of the research, guidelines for future research and assessment of institutional and systemic implications and solutions for current state of research. In the last section of the article *References* are listed.

2. Literature review on current state of knowledge and research on effectivity

Political and economic breakthrough in 1989 resulted in the introduction of market mechanisms in Poland's economy, including food economy, by introducing free market prices for food products, the formation of free trade margins, the abolition of agricultural contracts and grants for crops and food production, whereas market operators were given the opportunity to choose terms and conditions of commodity exchange.

In the coming years, Polish meat sector will be facing significant challenges with the inevitable slow and gradual decrease in the cost advantages of raw materials' prices, as well as ready-made meat products. In this context, the competitiveness will be determined by efficiency improvements in meat processing. The predominant form of business activity in manufacturing are meat enterprises on which, in the long run, will depend the efficiency, and hence competitiveness of Polish meat sector.

One of the main obstacles for food processing enterprises is the difficulty of obtaining stable and predictable income which would guarantee the continuation of production and earningprofits. Typical for agriculture and agro-food industry, is the fact that prices of raw materials fluctuate all-year round but retail prices of final products remain relatively rigid. All of the above strongly affect the efficiency of the agribusiness entities in the market (Szymańska E., 2011).
Additionally, the high level of price volatility in agriculture and food industry is affected by current geopolitical situation, implemented trade policy and the instruments used in trade. The currently ongoing conflict between the European Union and Russia has an immediate impact on the price level of final food products. This politically motivated conflict has led to changes in the direction and structure of trade, the decline in domestic prices of pork and beef by 25-40% and increase in prices of food products in Russia, including meat from 30 to 50%.

Developing research on profitability of meat processing enterprises is extremely needed and constitutes a useful tool for policy makers on the meat market in terms of obtaining information about the validity of its operations, the need to make the necessary modifications, eliminating the potential risk of operation, and thus minimizing risk of bankruptcy and liquidation. Additionally, the authors have not found any of the current research on the effectiveness of processing enterprises in any country for such a long period of time.

3. Methodology, empirical data and analysis

Due to the subject of the analysis some frequently used terms need to be explained.Firstly, an entrepreneur [1] is a natural person, a legal person or a non-corporate organizational unit with legal capacity under provisions of a separate act, conducting economic activity on its own behalf .
Secondly, the financial situation is defined as the financial condition of an economic entity, which expresses its solvency and ability to generate profits and increase its assets and capital resources (Wojciechowska 2001). Thus, it can be said that the company's financial situation is the result of all its economic decisions, as well as the associated growth and development opportunities (Siemińska 2002) and reflects its financial position.
Thirdly, the financing strategy is based on the selection of sources of capital to finance the conducted business activity and should not be equated with the concept of financial strategy, which is broader and consists in the selection of forms of financing the activities of entities in the free market economy.
Fourthly, profitability is a measure of economic efficiency and is calculated as the profit in relation to a given financial volume whose profitability is determined.
Fifthly, meat processing enterprises are entities operating on the meat market, which according to the Polish Classification of Activities (PKD 2007; Dz. U. 251, poz. 1885) deal with: processing and preservation of meat excluding meat from poultry (PKD 10.11), processing and preservation of meat from poultry (PKD 10.12), production of meat products including poultry meat products (PKD 10.13). To sum up, meat processing enterprises are production entities, in PKD classified as 10.13 Z, involved in a physical, chemical, mechanical, or manual processing of raw materials or semi-final products into new products. The new product may be produced as a final good, ready for use or, can serve as an intermediate raw material for other food production. According to regulations, meat enterprises can produce products using their own material, subcontract production from their own materials, as well as have the rights to the product and subcontract their production from own or entrusted material, and also produce products as a subcontractor (PKD.biz. pl).

[1] The definitions come from the Act on Freedom of Business Activity of 2 July 2004.

This article is an attempt to identify, measure and evaluate the profitability level of all meat processing enterprisesby taking into account app. 17.850 financial data within the years 2010-2016. This paper is a development, extension and deepening of the analyses conducted in 2013-2016 on measurement and evaluation of the effectiveness of meat industry operators in Poland, as part of comprehensive research on the specificity and diversity of effectiveness of meat processing entities in Poland.

The article reviews domestic and foreign literature in order to present and make the necessary comparison of the effectivity concept, methods of measuring it, taking into account various advantages and disadvantages of their use. The study applies method of analysis and reasoning, and in particular the methods of descriptive, comparative, deductive and synthetic analysis. The results of the analyses are based on the results of authors' own research, studies, as well as analyses of cases and the results from domestic and foreign literature series published on the subject.

3.1. The concept of financial efficiency in terms of using financial ratios

Literature review conducted by the authors in order to define the term of profitability leads to the conclusion that the concept often used and its understanding depends on the object of analysis but presenting a concise and unambiguous definition poses numerous difficulties. In economics profitability is a fundamental, key, multi-faceted and multi-dimensional concept. Similar, though not identical concepts are expressed by synonyms such as effectiveness, productivity, profitability, rationality, usefulness, and purposefulness.
Literature on the subject describes methods of making, using and interpreting correctly more than 300 financial ratios (Siemińska 2002). Evaluation of the financial efficiency refers to both to partial efficiency, e.g.: current liquidity, and to overall performance, using synthetic ratios[2]. This group of methods for the assessment of efficiency involves establishing the relationship between values using financial ratios (Zielińska-Chmielewska A., 2014 a).
In the narrower sense financial ratios express in a single number the result of the comparing two or more measurable economic phenomena[3] (Mielnik, Szambelańczyk, 2006).
Based on the analysis of domestic and foreign literature in the field of typology[4] of financial ratios, the authorshas divided ratios into five groups:a) liquidity ratios,b) debt ratios (leverage ratios, gearing ratios),c) profitability ratios (efficiency ratios),d) operating ratios,e) market value ratios.

The basic principles of construction of all financial ratios include: desirability, relevance, proportionality and comparability. The first principle means that the ratio is a tool with which one can analyzes the specific area of economic reality. The principle of the adequacy postulates comparing only such values which are logically connected with each other which ensures that their interpretation is reasonable. The third rule is to provide such a method of expressing combined values, which correspond to their actual relationships. The fourth, principle of comparability, requires a guaranteed reference framework through which it is possible to relativize and objectify results obtained in the ratio analysis. The so-called comparative base ratios may be achieved in previous years, as the average for the sector, region or a country. (Becker, 2007).

---

[2]For example it can be so called Du Pont method.
[3]In English literature the term of financial ratio is interchangeably used with business ratio or management ratio. Nevertheless, the analyzed term of financial ratio is clear and understandable so the authors decided to consider them as synonymous and in the article financial ratio is being used.
[4] In literature there are different typologies of groups of financial ratios. For example, Warren C., Reeve J., Fess P., distinguish only two groups: solvency ratios and profitability ratios. On the other hand, J. Smith, K. Skousen have identified four groups of financial ratios: liquidity ratios, profitability ratios, activity ratios and capital structure ratios.

3.2. Estimation of profitability level and applied profitability strategies in meat processing enterprises in Poland

Three types of financing strategies have been constructed based on literature research: aggressive, moderate and conservative strategy. An aggressive strategy, also known as active, dynamic, risky, is characterized by a high level of operating profit from sales (ROP), a high level of operating profit after taxation from total equity (ROI), a high level of net profit generated from net sales products (ROS), a high level of net profit from total assets (ROA), a high level of net profit from equity (ROE), high operating leverage effects, low financial leverage effects and high total leverage effects (Zielińska-Chmielewska A., 2014).

Table 1 *Indicators of the financing strategy activities of the company's profitability*

Listing	Type of implemented strategy		
	aggresive	moderate	conservative
Degree of operating profit on sales revenues (ROP)	high	average	low
Rate of net profit on net revenues from sales of products (ROS)	high	average	low
Degree of net operating profit after tax from total equity (ROI)	high	average	low
Rate of net income from total assets (ROA)	high	average	low
Rate of net profit generation from equity (ROE)	high	average	low
Operating leverage effects	high	average	low
Financial leverage effects	low	average	high
Total leverage effects	high	average	low

Source: development and ownconceptionbased on: Bień W., 2011, Zarządzanie finansami przedsiębiorstwa, Bragg S., 2010, Wskaźniki w analizie działalności przedsiębiorstwa …, Gołębiowski G., Tłaczała A., 2009, Analiza finansowa w teorii i w praktyce…, Jaki A., 2012, Mechanizmy procesu zarządzania wartością przedsiębiorstwa, opracowanie własne na podstawie Jaki 2012, pp. 150-152.

A moderate strategy, known as a mild, harmonious, flexible or mixed strategy, is characterized by an average level of operating profit from sales (ROP), average operating profit after taxation from total equity (ROI), average net income from revenues Net profit from sales of products (ROS), average level of net profit from total assets (ROA), average net profit from equity (ROE), as well as average operating, financial and total leverage.

Table 2 *Presentation of relative accounting profitability ratios in the analyzed meat processing enterprises*

No.	Name of the profitability indicator	Explanation of the profitability indicator	Average industry values
1.	Operating profitability (ROP) = (operating profit) / (sales revenue + other operating income)	The operating profitability ratio measures the relationship between profit (loss) on all operations and sales in value terms. The ratio includes other operating activities in assessing profitability, and therefore increases or decreases the profitability of main business activity by a partial result on other operating activities.	9.82
2.	Net sales profitability (ROS) = net profit / (net revenues from sales of products, goods and materials + other operating income + financial revenues + extraordinary profits) x 100%	Return on sales by how much net profit remains in the company from sales. This means that thanks to the indicator, you can find out what profit is attributable to every PLN 1 obtained from sales. The value of the indicator largely depends on the company's industry and on the length of the turnover cycle and the company's sales volume. A high ROS value means that the company obtains a high margin on the sales of its products. A positive signal is always the upward trend in the value of the indicator in subsequent periods.	14.45%
3.	Return on total capital (ROI) = Operating profit after tax / total capital x 100%	Return on investment measures the effectiveness of an enterprise because it estimates the profit a company can expect to invest by 1.00 PLN. Thanks to the universality and ease of calculation, the indicator is often used to compare the profitability of several investments and can be expressed as a percentage or value.	The higher, the better

No.	Name of the profitability indicator	Explanation of the profitability indicator	Average industry values
4.	Return on assets (ROA) = net profit / total assets x 100%	The return on assets ratio, also known as the asset profitability indicator, informs about the company's ability to generate profits and efficiency of property management. The high level of the indicator and its upward trend give a positive sign that there are opportunities for company's development.	The higher, the better
5.	Return on equity (ROE) = net profit / equity x 100%	Return on equity, also known as the profitability ratio of a company's equity, shows how much profit the company has earned from its equity. The desired level of the indicator exceeds inflation, which means that it is worth investing capital in a given enterprise. The negative value of the indicator maintained for a longer period (f. ex. the value lower than the inflation rate) may signal the threat of bankruptcy.	13.96%
6.	Operating leverage ratio (DOL) = Sales revenue / Operating profit	The level of operating leverage ratio informs about the level of impact of changes in the value of sales revenues on operating profit.	No data
7.	Financial leverage ratio (DFL) = ROE - ROI / ROI	The level of financial leverage ratio informs about the level of debt service costs which have an impact on the company's profitability. Leverage determines the profitability of using foreign capital in the process of financing the company's operations.	No data
8.	Overall Leverage Ratio (DCL) = DFL x DOL	The overall leverage ratio indicates how much will change (ROE) as a result of a 1% change in net sales revenues, e.g., if the total leverage ratio is 3, then the change in net sales revenues by 1%, the ROE changes by 3%.	No data

Source: development and ownconceptionbased on: Bień W., 2011, Zarządzanie finansami przedsiębiorstwa, Bragg S., 2010, Wskaźniki w analizie działalności przedsiębiorstwa …, Gołębiowski G., Tłaczała A., 2009, Analiza finansowa w teorii i w praktyce…, Jaki A., 2012, Mechanizmy procesu zarządzania wartością przedsiębiorstwa, pp. 150-152.

The conservative strategy, called passive, conservative, or survival, is characterized by a low level of operating profit from sales (ROP), low operating profit after taxation from total equity (ROI), low level of net profit generated from net sales of products (ROS), low level of net profit from total assets (ROA), low level of net profit from equity (ROE), low operating and total leverage effects and high leverage effects (Table 1).

From the point of view of assessing the condition of the enterprise, the mechanism of operational leverage is important, and depends on the profitability of sales and cost structure. This is related to the fact that after exceeding the profitability breakpoint, profit grows faster than sales. In addition, the faster the profit increases, the higher the share of fixed costs in the total cost of production is. The operating leverage ratio (DOL) determines to what extent an one-percent change in sales revenue affects the change in the operating profit of the enterprise.

Table 2 presents the relative accounting performance indicators in the meat enterprises under study.In turn, the financial leverage mechanism[5] consists in using the cost of foreign capital (interest rate), which is not dependent on either profits or current sales fluctuations. The structure of the capital financing the company's venture is significant for the level of profitability and risk associated with the company's operations. It is assumed that foreign capital may be used only if its cost is lower than the profitability of the financed undertaking. Then, it is possible to "raise" the company's profits by using the leverage mechanism.

[5] It is worth to notice that the financial leverage effect is used on the derivatives market, allowing to increase potential profits. Therefore, concluding a forward contract transaction does not require holding all the cash to cover it, i.e. in practice it is required to have a deposit of 5-15% of the contract value. As a result, by investing only a fraction of the contract value, an investor with a higher risk appetite is still able to make profits and losses at the level that he could achieve by investing the full amount in the underlying instruments[www.nbp.pl, access: 1.03.2018].

The financial leverage ratio (DFL) determines the relationship between the change in the value of operating profit and the change in net profit. The purpose of financing foreign capital operations is to increase the efficiency of management, and in particular to improve profitability. The use of external financing is justified when the return on equity is higher with the use of foreign capital. Therefore, to determine whether the level of indebtedness is appropriate is the leverage ratio.

The overall leverage ratio (DCL), on the other hand, presents a relationship that combines the value of sales, operating profit and net profit. The overall leverage ratio is the product of operational and financial leverage. The degree of total leverage shows the extent to which the value of generated net profit will increase, taking into account changes in the value of sales, revenues and financial costs. The overall leverage ratio defines the degree of operational and financial risk of a company. The overall leverage ratio can be used in the profit planning process, which gives the opportunity to choose the most satisfactory solutions from among the possible growth options and the use of enterprises necessary to achieve the company's intended goals.

4. Results and discussion

The article identifies and measures the level of profitability and the profitability strategies (Table 1) of the analyzed 150 large meat processing enterprises[6]using appropriately selected measures and financial ratios (Table 2). Identification and evaluation of financing operations in the area of profitability required calculations (Table 3) in the scope of earning operating profitability (ROP), net sales profitability (ROS), return on total capital (ROI), return on assets (ROA), return on equity (ROE), operating leverage ratio (DOL), financial leverage ratio (DFL), and overall leverage ratio (DCL). After the calculation, the dominant financial strategies of companies were established (Table 4) based on the arithmetic average values of sectoral indicators[7] in the period 2010-2016, and then final conclusions were formulated.

In meat processing enterprises in Poland in 2010-2016, the values of operating profitability ratio (ROP) were on varied but always positive levels. The operating profitability ratio oscillated between 1.90 (2010) to 3.90 (2014). In the seven-year analysis period, the meat processing enterprises pursued a conservative policy in this area of profitability, which meant that they obtained low returns on basic operating activities.

Table 3 *Presentation of profitability ratios of analyzed 150 meat processing enterprises in 2010-2016 in Poland*

Years	2010	2011	2012	2013	2014	2015	2016	The arithmetica verage
Profitabilityratios								
Degree of operating profit on sales revenues (ROP)	1.90	2.10	2.28	2.79	3.90	3.29	2.51	2.68
Rate of net profit on net revenues from sales of products (ROS)	12.56	12.98	13.03	15.21	18.59	17.73	12.10	14.6
Degree of net operating profit after tax from total equity (ROI)	1.41	1.51	1.61	2.18	3.19	2.76	1.44	2.01
Rate of net income from total assets (ROA)	6.08	7.18	7.91	10.85	14.52	10.79	8.90	9.46
Rate of net profit generation from equity (ROE)	8.42	8.59	9.19	11.90	15.24	14.87	11.78	11.42

[6] In-depth, long-term analyses carried out since 2012, supplemented by data from the Central Statistical Office of Poland enabled to create database of all 575 meat enterprises located in Poland in the period 2010-2016. Out of all 575 meat enterprises, 60 were rejected as not operating, the remaining 515 were classified according to the volume of processing raw material into: small entities (120), medium entities (245) and analyzed so called large meat processing enterprises (150), see also: Dz. U., 2004, nr 173, poz. 1807.

[7]It is important to notice that the arithmetic average for different sectors in Poland can be checked at http://rachunkowosc.com.pl/c/Artykuly,Wskazniki_sektorowe. Sektorowe wskaźniki finansowe opracowane przez Komisję ds. Analizy Finansowej Rady Naukowej SKwP we współpracy z Wywiadownią Gospodarczą InfoCredit

Years	2010	2011	2012	2013	2014	2015	2016	The arithmetica verage
Operating leverage ratio (DOL)	42.32	44.87	43.92	35.89	25.66	30.36	94.86	45.41
Financial leverage ratio(DFL)	|0.31|	|0.30|	|0.29|	|0.22|	|0.18|	|0.16|	|0.15|	|0.23|
Overall leverage ratio (DCL)	13.11	13.46	12.74	7.89	4.62	4.86	14.23	10.13

Source: development and preparation based on own calculations from Monitory Polskie „B", EMIS Intelligencespecialist financial database as well as financial statements in the form of balance sheets, profit and loss accounts and cash flows of analyzed meat enterprises in 2010-2016.

In meat processing companies in Poland in 2010-2016, thevalues of net sales profitability ratio (ROS) were on varied, positive levels. The net sales profitability ratios were in the range from 12.10%(2016) to 18.59% (2014). In the seven-year analysis period, the meat processing enterprises pursued an aggressive policy in this area of profitability, which meant that they obtained high average returns on net sales.

In meatprocessing enterprises in Poland in 2010-2016, the values of the return on total capital (ROI) were on varied but always positive levels. The return on total capital ratios fluctuated in the range from 1.41 (2010) to 3.19 (2014). The largest positive return on investment in the seven-year analysis period was made in 2016 (3.19%). In the period between 2010-2016, the meat processing enterprises maintained a conservative strategy of operating in the area of return on total capital, which meant that the companies received lowaverage returns on total capital (2.01%).

In meat processing enterprises in Poland in 2010-2016, the values of return on assets (ROA) were on varied positive levels. The return on assets ranged from 6.08 (2010) to 14.52 (2014). In the analyzed period, the meat processing enterprises maintained an aggressive strategy of return on assets, which meant that they received high average returns on assets (9.46%).

In meat processing enterprises in Poland in 2010-2016, the values of return on equity (ROE) were at varied positive levels. The return on equity ranged from 8.42 (2010) to 15.24 (2014). In the analyzed period, the meat processing enterprises maintained moderate strategy of return on equity equal to 11.42%, which was only a little below the average (13.96%).

In meat processing enterprises in Poland in 2010-2016, the values ofoperating leverage ratio were at diverse, positive levels oscillating from 25.66 (2014) to 94.86 (2016). In the analyzed period, the highest positive operating leverage effect, and at the same time, the highest income from sales revenues from operating activityincurred in 2016 (94.86).

In meat processing enterprises in Poland in 2010-2016, the values of financial leverage ratio were at negative levels oscillating from |0.31| in 2010to |0.15| in 2016. The lowest positive financial leverage effect during the seven-year analysis period, and at the same time the lowest debt service costs incurred in 2016 (0.15).

In meat processing enterprises in Poland in 2010 and 2016, the values of overall leverage ratio were at highly diversified, positive levels. The highest positive overall leverage effect during the seven-year period of the analysis, and at the same time, the biggest changes in the level of return on equity (ROE) due to the change in net sales revenues by 1.00 PLN were observed in 2016 (14.23).

On the basis of the results obtained, the dominant strategies of the meat processing enterprises in each of the analyzed areas of profitability activities were presented (Table 4).

Table 4 *Dominant financing strategies in profitability activities of the analyzed meat processing enterprises*

Years	List of dominant financing strategies in profitability activities				
	operational	sale	totalcapital	assets	equity
2010-2016	conservative	conservative	aggresive	aggresive	moderate

Source: own preparation based on authors' calculations

As a result of the research, it can be concluded that analyzed meat processing enterprises have pursued diverse strategies in the area of profitability. In 2010-2016, allmeat processing enterprises pursued a conservativestrategy of operating profitability, conservative strategy of sale profitability, aggressive profitability of total capital, aggressive profitability of assets, and moderate profitability strategy of equity.

5. Conclusion

Summing up, it can be concluded that the size of the plants and diversification of the dominant production areas had a major impact on the type of policies implemented in the field of profitability. High profitability levels and simultaneously high amplitudes of yield volatility are the result of changes in the level of production and sales as well as the rotational cycle of meat plants. The conducted analysis indicates a high exposure to the risk of the meat processing companies, whose effectiveness is highly dependent on the company's ability to generate net profit, mainly from equity, and, to a lesser extent, from each 1.00PLN from sales. The aim of the article was to identify, measure and assess the profitability level of the meat processing enterprises under examination and to indicate the dominant strategies in the area of profitability. The aim of the study was implemented, and the research hypothesis positively verified. It should be pointed out that the pursuit of a high level of profitability must be realized within the framework of liquidity security because maintaining the liquidity of operations is the basis for achieving profitability. However, profitability does not lead to liquidity. Based on the conducted analyzes, it is observed that financial liquidity and profitability are interdependent and affect the financial situation of enterprises. Therefore, the obtained results will be used in further analyzes of factors affecting the level of profitability using existing and made modifications of measures in the economic analysis of the company.

REFERENCES

Act on Freedom of Business Activity of 2 July 2004.

Becker, A., Becker, J. (2009): Zastosowanie metody granicznej analizy danych do oceny gospodarowania województw Polski [in]: Studia i materiały Polskiego Stowarzyszenia Zarządzania Wiedzą, (ed.) J. Wątróbski, Bydgoszcz: PSZW.

Bień W. (2011): Zarządzanie finansami przedsiębiorstwa,Difin, Warszawa.

Bragg S. (2010): Wskaźniki w analizie działalności przedsiębiorstwa, Oficyna Ekonomiczna Grupa Wolters Kluwer, Warszawa.

Warren C., Reeve J., Fess P. (2005): Financial Accounting, ed. IX, SW.

Gołębiowski G., Tłaczała A. (2009): Analiza finansowa w teorii i w praktyce, Difin, Warszawa.

Jaki A. (2012): Mechanizmy procesu zarządzania wartością przedsiębiorstwa, ZN Uniwersytetu Ekonomicznego w Krakowie – Seria specjalna: Monografie, nr 215, wyd. UEK, Kraków, s. 150-152.

Mielnik, M., Szambelańczyk, J. (2006): Ocena efektywności banków spółdzielczych w Polsce w latach 1997–2003 (dla czterech celów działalności)". *Bezpieczny Bank*, Nr 1 (30).

Rappaport, A. (1995): Shareholder Value – Wertsteigerung als Maßstab für die Unternehmensführung. Stuttgart: Schäffer-Poeschel Verlag.

Rozporządzenie Rady Ministrów z dnia 24.12.2007 w sprawie Polskiej Klasyfikacji działalności (PKD), Dz. U. 251, poz. 1885.

Siemińska E. (2002): Metody pomiaru i oceny kondycji finansowej przedsiębiorstwa, Dom Organizatora, Toruń.
Smith J., K. Skousen K. (2009): Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle, M. Hirschey, J. Kose, A.K. Makhija, (ed.), Corporate Governance and Firm Performance (Advances in Financial Economics, Volume 13) Emerald Group Publishing Ltd., pp.53-81.
Szymańska, E. (2011): Efektywność gospodarstw wyspecjalizowanych w produkcji żywca wieprzowego w Polsce, Rozprawy naukowe i Monografie, Warszawa: SGGW.
Ustawa o swobodzie działalności gospodarczej, Dz. U. z 2004 r., nr 173, poz. 1807, art. 104-110, Dz. U. z 2004 r., nr 173, poz. 1807.
Wojciechowska U. (2001): Płynność finansowa polskich przedsiębiorstwa w okresie transformacji gospodarki. Aspekty mikroekonomiczne i makroekonomiczne, SGH, Warszawa.
Zielińska-Chmielewska, A. (2014 a): Ocena realizacji strategii płynności finansowej ZM Henryk Kania SA w ujęciu dochód-ryzyko w latach 2008-2012, Zeszyty Naukowe Uniwersytetu Szczecińskiego. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania., 810, s. 551-565.
Zielińska-Chmielewska A. (2014): Ocena realizacji strategii finansowych wybranych giełdowych spółek mięsnych w latach 2005-2011, Prace Naukowe Uniwersytetu Ekonomicznego (AE) we Wrocławiu, 347, s. 543-551.
Zielińska-Chmielewska A. (2017): Ocena poziomu rentowności i stosowanych strategii rentowności giełdowych spółek mięsnych w Polsce, Prace Naukowe Uniwersytetu Ekonomicznego (AE) we Wrocławiu, 487, s. 353-365.
Internet:
http://www.nbp.pl, access on 1.03.2018
http://www.pkd.biz.pl, access on 1.03.2018
http://rachunkowosc.com.pl/c/Artykuly,Wskazniki_sektorowe. Sektorowe wskaźniki finansowe opracowane przez Komisję ds. Analizy Finansowej Rady Naukowej SKwP we współpracy z Wywiadownią Gospodarczą InfoCredit
http://www.stat.gov.pl, access on 1.03.2018

7

Društveno odgovorno poduzetništvo

Social responsibe entrepreneurship

Assistant professor, Goran Karanović, Ph.D.
University of Rijeka, Faculty of Tourism and Hospitality Management
Primorska 42, pp 97, 51410 Opatija
Phone: +385 51 294 693
E-mail address: gorank@fthm.hr

Assistant professor, Bisera Karanović, Ph.D.
Business School PAR
Trg Rijecke rezolucije 4, 51000 Rijeka
Phone: +385 51 327 037
E-mail address: bisera.karanovic@par.hr

Associate professor, Ana Štambuk, Ph.D.
University of Rijeka, Faculty of Economics
Ivana Filipovica 4, Rijeka, Croatia
Phone: +385 51 355 132
E-mail address: ana.stambuk@efri.hr

IMPLEMENTATION OF METHODS AND TECHNIQUES FOR RISK MANAGEMENT AND RISK EVALUATION IN CROATIAN NON-FINANCIAL COMPANIES

IMPLEMENTACIJA METODA I TEHNIKA ZA UPRAVLJANJE I PROCJENU RIZIKA U HRVATSKIM NEFINANCIJSKIM PODUZEĆIMA

ABSTRACT

The Great Financial Crisis, which enveloped global financial markets at the beginning of the 21st century, had a significant negative impact on the Croatian economy, manifesting itself through long-term recession, a considerable number of liquidated small and medium-sized enterprises, a rising unemployment rate, as well as other negative economic indicators. Based on the above, the issue of implementation of methods and techniques for risk assessment in non-financial companies was put in the spotlight. The purpose of this paper is to explore the knowledge and use of methods and techniques in non-financial companies in Croatia. The Croatian economy is characterized by a high percentage of small and medium-sized companies. Therefore, the target group of the research conducted was focused on this sample. A structured survey questionnaire collected the primary data, which was then statistically processed. The survey covered more than 300 companies, having been conducted from October 2017 to January 2018. The main contribution of this research was the identification of risks that non-financial companies manage. In addition, the paper finds a low level of knowledge about the use of techniques and methods for managing and evaluating risks in the surveyed companies. In addition, the survey attempted to ascertain whether there was a designated person, or possibly a department, within the company in charge of risk management. Based on the conducted research it can be concluded that there is a significant need for additional education on risk management among non-financial companies in Croatia. Thanks to this analysis it can be construed that the lack of familiarity with the basic methods and techniques probably had an influence on the overall exposure of the economy to the last crisis. Finally, this research points to the weakness and unpreparedness of businesses in Croatia and their susceptibility to future shocks.

Key words: *Risk Management, non-financial companies, methods and techniques, Croatia.*

SAŽETAK

Velika Financijska kriza koja je obuhvatila globalna financijska tržišta početkom 21. stoljeća, imala je značajan negativan utjecaj na gospodarstvo Hrvatske, što se manifestiralo dugotrajnom recesijom, velikim brojem zatvorenih malih i srednjih poduzeća, rastom stope nezaposlenosti i drugim negativnim ekonomskim pokazateljima. Na temelju iznijetog, nameće se pitanje implementacije metoda i tehnika za procjenu rizika u nefinancijskim poduzećima. Svrha ovo rada je istražiti poznavanje i korištenje metoda i tehnika u nefinancijskim poduzećima u Hrvatskoj. Hrvatsko gospodarstvo karakterizira visoki postotak malih i srednjih poduzeća. Stoga, je i ciljna skupina provedenog istraživanja bila fokusirana na taj uzorak. Pomoću strukturiranog anketnog upitnika prikupljeni su primarni podaci koji su potom statistički obrađeni. Anketnim ispitivanjem obuhvaćeno je preko 300 poduzeća, a ispitivanje se je provodilo od listopada 2017. godine do siječnja 2018. godine. Glavni doprinos rada ogleda se u identifikaciji rizika koja nefinancijska poduzeća percipiraju i kojima upravljaju. Pored toga, u radu je identificirana niska razina znanja i uopće korištenje tehnika i metoda za upravljanje i procjenu rizika u ispitanim poduzećima. Osim toga, anketom se je pokušalo utvrditi imaju li poduzeća uopće osobu, ili eventualno odjel, zaduženi za upravljanje rizikom. Na temelju provedenog istraživanja može se zaključiti da postoji značajna potreba za dodatnom edukacijom o menadžmentu rizika među nefinancijskim poduzećima u Hrvatskoj. Zahvaljujući ovoj analizi može se zaključiti da je nepoznavanje osnovnih metoda i tehnika vjerojatno utjecalo na ukupnu izloženost gospodarstva na posljednju krizu. Na kraju, ovo istraživanje ukazuje na slabosti i nepripremljenost hrvatskih poduzeća te podložnost budućim šokovima.

Ključne riječi: *Upravljanje rizicima, nefinancijska poduzeća, metode i tehnike, Hrvatska.*

1. Introduction

Since declaring its independence, Croatia and its economy have been going through crises of various degrees. At the outset it was the war and all the subsequent negative impacts and disturbances to the market and the economy, such as territorial occupation, devastation of large numbers of companies and production, war taxes, inflation, stabilization plan, introduction of a new currency, etc. Simultaneously with the war economy, the country underwent a process of transition from a centrally-planned to an open-market economy concept which included privatization, liberalization, inclusion in numerous international trade and financial organizations, etc. All these processes were followed by numerous reforms, including, but not limited to reforms in the banking sector, public finances, pension funds, monetary system, health system and so on. Additionally, both internal and external financial/economic crises and cycles have also had a negative impact on the economy, e.g. the 1998 bank crisis, the 2001 dot.com crisis or the Global financial crisis shocks that reverberated through the economy in the years following 2008. Even in the periods of stability and prosperity 2002-2007 the Croatian economy should have achieved better results than what was accomplished. The main reason for the absence of better results could be found in the lack of political consensus for the long-terms plans and priorities for the national economy. One of the blatant examples of inadequate political deliberations regarding long-terms plan for the economy was the hectic and inexplicable change of the VAT rate in the tourism sector. In April 2013, the Croatian Parliament adopted the Strategy of Croatian Tourism Development 2020 in which a measure no. 6 was introduced stating that the possibilities of reducing fiscal pressure should be considered. In 2013, the VAT rate within the tourism sectors was lowered from 25% to 10% for the services of accommodation, food and non-alcoholic drinks. The first jump from 10% to 13% happened just few months after the adoption of the Strategy. The new rise of the VAT rate in the tourism sector happened in 2017. After a thorough analysis of all the abovementioned facts, it could be concluded that the only constant in the first 25 years of an independent Croatian economy was, and still remains, uncertainty.

According to Alpeza et al. , the structure of the Croatian economy predominantly consisted of micro, small and medium enterprises, i.e. 106,221 or 99.7% of the total number of registered enterprises operating in the Croatia in 2015. Their share in the economy's total revenues was 54%, employing 69.2% of the labor force and accounting for 50.3% of Croatian exports (2015, 7). This data precisely specifies the importance of micro, small and medium enterprises (further MSM) for the whole economy. Previous studies explored and determined that micro, small and medium enterprise have had a positive contribution to the economy, specifically through employment and productivity, i.e. direct growth of economy (Acs and Storey, 2004; Gebremariam, Gebremedhin and Jackson, 2004; Beck, Demirguc-Kunt and Levine, 2005; Bistricic and Kuman, 2011; Muritala, Awolaja and Bako, 2012; Rajsman and Petricevic, 2013). The reason for this study was instigated by the importance of MSM enterprises for the Croatian economy as well as the uncertainty and risk connected with doing business in the domestic market. The main purpose of this manuscript is to examine the knowledge and usage of methods and techniques for risk management and risk evaluation in Croatian non-financial MSM companies. The paper is structured as follows: Section 1 provides the introduction, Section 2 offers an overview of the existing literature on the topic and risk management practice in non-financial firms. Section 3 treats the research data and use of methodology. Section 4 presents the empirical findings, while Section 5 concludes.

2. Risk Management Practices in Non-financial Companies: A Literature Overview

For the last two decades of the 20th century, the number and the speed of crises appearing has increased. As a result of the higher number of crises and their impact on the global economy, risk management has become the focus of business executives. Risk management techniques and instruments emerged as a means for risk management. It was first and mostly adopted by the financial companies and subsequently by non-financial large and medium companies. The financial sector and financial companies are strictly regulated and have precise obligations with regards to risk management. In contrast, the non-financial companies have no regulated obligations with regards to risk, especially financial risks. The companies' interest for risk management emerged from previous negative experiences, as well as from information provided by financial companies offering their services. The scientific audience heightened their interest in risk management in non-financial companies. In the past twenty years there has been a growing number of articles examining risk management practices of non-financial companies and their impact on the value of the company (Smithson and Simkins, 2005; Stiller and Peter, 2014). In addition, the impact of the last Global financial crisis was indisputably devastating for MSM, as evidenced by the UK (Cowling *et al.*, 2015). Virglerova, Kozubikova and Vojtovic focused their study on the investigation of selected factors influencing risk management in micro, small and medium-size enterprises. They have determined that just 28,5% of total respondents (n=1141) believed that they have the ability to manage financial risks (2016, 28). Analysis of the risk management practice among Russian non-financial companies indicated an awareness of companies for foreign exchange risk management practices and indicated a good practice. Nevertheless, the main reason for companies not using derivatives is the lack of qualified personnel and shallow derivatives market. (Dmitrieva, 2015, 145). Analogous results were obtained by Bodnar et al. for the Italian non-financial family firms. The main conclusion of their paper is that Italian companies are using derivatives for protection from two main risks – foreign exchange and interest rate (2013, 21). On the other side, Brustbauer in his study concluded that Austrian SME rather follow a passive risk-management approach that puts little effort towards risk- management awareness. He defines the main reason for that state as the lack of resources (2016, 82). Correspondingly, one of the reasons for ineffective risk management and especially financial risks is lack of information (Hudakova, Buganova, and Dvorský 2015; Pesic 2011). It must be emphasized that the German non-financial companies have indicated the main goal of risk management to be "Ensuring the survival of the firm" with the mark (4.7/5) (Fatemi and Glaum, 2000, 5). Based on their study, Al-Amri and Davydov determined that companies that have implemented risk management have, on average, a

63% reduction in operational risk frequency as well as average savings of up to 35% reduction in operational losses (2016, 510).

Based on the Croatian companies' exposure to historical turbulences, it could be concluded that the Croatian entrepreneurs and non-financial companies are accustomed to the ambiguity and high probability of potential risks. One of the additional risk that characterizes doing business in Croatia is complicated administration (Pesic, 2011, 434). In that light it could be presumed that the Croatian entrepreneurs and non-financial companies have appropriate knowledge and good risk management practices. In contrary, previous findings of different studies indicate that SMEs starting with very low level of skills and expertise including corporate, management and organizational (Radas and Bozic, 2009, 448). A study carried out by Dumicic, Cizmesija and Pavkovic (2005) indicated poor and inadequate level of risk management knowledge and practices of protecting instruments. A study brought by authors Dumicic, Dumicic and Cukrov (2005) brings the disappointing results on risk management in Croatian companies. The findings indicated insignificant usage of instruments for risk management practice – just over 40% – by large and medium companies. Furthermore, Milos Sprcic (2007) investigated large Croatian companies' hedging and relations to corporate risk management decisions, having concluded that existing theories prove as inadequate in explaining risk management decisions in large Croatian companies. On the other side large and medium companies have good knowledge in predicting methods for doing business and predicting business environment (Dumicic and Knezevic, 2007).

3. Data and Methodology

A survey was used for the purpose of this research on implementation of risk management methods and techniques in small and medium Croatian companies. The survey was carried out by using a structured questionnaire. Three-point Likert scale questions were used, while for demographic data dichotomous questions and multiple-choice questions were employed. "Level of knowledge and use of methods and techniques" was set up based on (Dumicic, Cizmesija and Pavkovic, 2005; Dumicic, Dumicic and Cukrov, 2005). "Identification of the risk that non-financial companies perceive" was set-up based on research (Fatemi and Glaum, 2000; Milos Sprcic, 2007; Bodnar *et al.*, 2013). The survey was carried out from October 2017 to January 2018. All participants' i.e. non-financial companies were chosen randomly and the survey was collected in person. A total of 450 questionnaires was distributed, while 369 of them were valid (82% response rate). The conducted survey had a limitation primarily regarding the target group that could participate in research. The first question of the survey was eliminating one. Only persons that are making operational and financial decisions were a suitable survey target group. Statistical analysis was conducted using the SPSS statistical package. Descriptive statistics were used for the purpose of statistical analysis.

4. Empirical Results on Risk Management Practices Among Non-financial Companies

The motive for this research was inspired by the study brought by Dumicic, Cizmesija, and Pavkovic and their conclusion "in the future it would be interesting to investigate small enterprises' attitudes towards financial risk management concerning risk protection, and not only for medium-sized and large companies ... " (2005, 99). With this research the authors made an attempt to expand and adopt research on implementation of risk management in small and medium companies. In the process of pretesting the questionnaire, the issue of micro companies emerged. Based on that a new category was introduced in the size of the company. The first part of the survey involved collecting demographic information on participants. The structure of companies by size is presented in the following table.

***Table 1** Size of the company and share in sample*

Size	Frequency	Valid Percent	Cumulative Percent
Micro 0- 9	218	59,1	59,1
Small 10-49	107	29	88,1
Medium 50-249	44	11,9	100
Total	369	100	

Source: Authors' calculations

In addition, the type of companies were also examined, with the results presented in the below table

***Table 2** Type of company*

Size	Type of the company	Frequency	Percent
Micro 0- 9	Limited Liability Company- LLC	130	59,6
	Simple Private Limited Company- SLLC	31	14,2
	Craft	57	26,1
	Total	218	100,0
Small 10-49	Limited Liability Company- LLC	98	91,6
	Simple Private Limited Company- SLLC	1	,9
	Craft	8	7,5
	Total	107	100,0
Medium 50-249	Limited Liability Company- LLC	35	79,5
	Joint-stock company	9	20,5
	Total	44	100,0

Source: Authors' calculations

The overall share of the micro companies in the sample is 59%, small companies share is 29%, while the medium companies have a 12% share in the sample. In addition, from the data presented in table 2 it may be concluded that the biggest share of company type belongs to the limited liability company with a share over 70%. It is followed by crafts with share of 17,6%, then simple limited liability companies with 8,67%. The smallest share is joint-stock companies with a little bit above 2%. The following table presents the company headquarters by the regions, based on Nomenclature of Territorial Units for Statistics level 2 (NUTS2).

***Table 3** Company headquarters by NUTS2 regions*

Size	Region	Frequency	Percent
Micro 0- 9	Continental	101	46,3
	Adriatic	117	53,7
	Total	218	100,0
Small 10-49	Continental	51	47,7
	Adriatic	56	52,3
	Total	107	100,0
Medium 50-249	Continental	24	54,5
	Adriatic	20	45,5
	Total	44	100,0

Source: Authors' calculations

4.1. Managed Risks And Implemented Process of Risk Management

In order to determine which risks are being managed by the micro, small and medium companies a multiple-choice question was introduced. The following risks were offered: interest rate risk, foreign exchange rate risk, liquidity risk (cash flow management), risk of debt collecting (billing security instruments), risk of suppliers (possibility of changing suppliers, more suppliers for the same input) and possibility to write down additional risks. In the following table results are presented.

Table 4 *Managed risk by non-financial MSM companies*

Size	Interest rate risk		Foreign exchange rates risk		Liquidity risk		Debt collecting risk		Suppliers risk	
	N	%	N	%	N	%	N	%	N	%
Micro 0-9	11	25.00	28	12.84	116	46.79	174	79.81	112	51.38
Small 10-49	17	15.89	25	23.36	69	64.49	85	79.43	56	52.34
Medium 50-249	18	8.26	12	27.27	34	77.27	38	86.36	30	68.18
Unweigh. average		16.3		21.15		56.86		81,87		57,3

Source: Authors' calculations

From the analysis of the results displayed above, it may be concluded that all companies, regardless of size, have indicated (with the percentage over 80%) that they manage debt collecting risk. This information confirms that companies in the Croatia have difficulties with debt collecting and that this is source one of highest risks. The risks that are least managed include interest rate risks (on average 16.3%) and foreign exchange rate risks (21.1%). Results are not surprising and are in the same line with previous findings conducted on large and medium companies (Dumicic, Cizmesija and Pavkovic, 2005; Dumicic, Dumicic and Cukrov, 2005; Milos Sprcic, 2007). One of the reasons for low results for these two risks may be found in the inadequate levels of knowledge for managing these kinds of risks. Furthermore, over 50% of micro and small companies and over 68% of medium size companies have stated that they manage suppliers' risk. The management of the liquidity risk is connected to the size. The biggest share of companies that are managing liquidity risk (77%) are coming from the medium-size companies, contrasted to the 64% of small size companies, while only 46% of micro companies manage liquidity risks.

The respondents had an option to write down other risks that they are managing and the answers are as follows; *HR risks, assets risks – physical aspect, credit risks, projects risk, fiscal risks, buyers risk, risk of competitors, legal risks, natural disaster risks and others.*

4.2. Risk Management Methods: Knowledge and Practices in the Companies

This study investigates the knowledge of 11 methods for risk management as well as companies' practices. The data were collected for methods 1) close co-operation with the bank (opened credit line and/or possibility for quick loan realization); 2) close co-operation with the owner (potential finance source); 3) cash flow analysis; 4) instruments for debt collecting (banks guarantees, letter of credit, IOU, promissory notes); 5) assets and liability analysis; 6) price change and/or marketing strategy flexibility; 7) long-term contract with suppliers; 8) forward contracts; 9) future contracts; 10) options and 11) swaps may be found in the appendix A.

Methods that micro companies know the best are close co-operation with the banks (79.4%), close co-operation with the owner (69.7%), cash flow analysis (72%), instruments for debt collecting (67%) and long term contract with suppliers (69,7). The group of methods for which micro companies have suitable level knowledge include: assets and liability analysis (60%), changing price and price change and/or marketing strategy flexibility (56.9%). The methods that micro companies have inadequate level of the knowledge include forward (33%) and future contracts (25.2%), options (20.2%) and swaps (23.9%). For simplicity's sake, further in the text the "trouble" group - options, future and forward contracts and swaps will be written as abbreviation OFFS. The results for practice of eleven methods by the micro companies exhibit the potential risk exposure of this economic sector. Substandard level of practice is evident in majority of the investigated methods. The level of knowledge in small companies is at a higher level than in micro companies. It may be pointed out the level of knowledge is satisfactory for the majority of the methods and falls within the range between 71% price change and/or marketing strategy flexibility and close close co-operation with banks 89%. The level of knowledge for small size companies ranges from (29-43%), which could be worrisome, and is connected to the group of OFFS methods. Small size companies' practice of methods for risk management is at satisfactory level for the majority of the methods ranging from 59% for price change and/or marketing strategy to the 85% for cash flow analysis. Corresponding with the level of knowledge critical methods practice is connected to the OFFS group of methods from (12-18%). The medium size companies have excellent level of knowledge with the knowledge level ranging from 68% to the 95%. Except for the method of forward contacts knowledge (68%), the level of knowledge for the OFFS group is slightly lower (45-50%). As for the first two size groups companies the level of practice is related to the level of knowledge and for the medium sized companies. The methods that are not sufficiently used in practice are OFFS. The method that is used most frequently within the OFFS group is the forward contract (45%) while the rarest are options and swaps (20%).

Based on the survey it can be concluded that the level of knowledge is disappointing and concerning especially in the micro and the small size companies. The findings confirm that the lack of knowledge and risk management practices in MSM size companies are some of the reasons for such impact and effects of Global financial crisis on the Croatian economy. These findings indicate the patterns of behavior of companies regarding risk management that leaves them unprepared for future shocks and disbalances.

4.3. Methods and Techniques for Measuring Risks: Knowledge and Practices

Furthermore, the survey inquired about the level of knowledge of methods and techniques for measuring risk among MSM size companies as well as their practices. The following 6 methods and techniques were investigated: 1) Break-even point; 2) What-if analysis; 3) Decision tree, 4) Risk matrix; 5) Sensitivity analysis; 6) Financial ratios analysis. In appendix B are presented obtained results. From the analysis of the data it may be concluded that overall, the best known and used method for measurement of risk are break-even point analysis (average 70%) and financial ratio analysis (average 75%), while the methods of mid-level knowledge include what-if analysis (44% micro; small 64% and medium 65%). The data for usage of this method indicate that the micro (33%) and small (47%) size companies are infrequently using this method, whereas the usage by medium is adequate 63%. Risk matrix and sensitivity analysis method are rarely used by micro and small companies (> 25%), while medium companies are using them in 45-50% for measuring risks. Decision tree method is rarest used method by all surveyed companies (micro 9%; small 16%; medium 18%). Based on the analysis it may be concluded that the MSM companies are primarily focused on liquidity risks. Overall, however, it may be concluded that more advanced and complex methods are insufficiently used by the MSM companies.

5. Conclusion

Various techniques and methods for risk management and evaluation have been developed through the years, some of them entering the business mainstream and receiving wide acceptance and day-to-day use. The most numerous users of these methods and techniques normally fall in the micro, small, and medium-sized (MSM) company range since they traditionally constitute the majority of the domestic economy. With regard to the economy's structure and nature, the situation in Croatia exhibits a very specific dichotomy – on the one hand, it too, is comprised of high percentage of MSM companies like the rest of the world, but on the other hand, the economy itself is prone to more uncertainty due to both external and internal shocks it had experienced in the past quarter of a century. The aim of this article was to therefore explore the knowledge and use of risk management and evaluation methods and techniques in non-financial companies in Croatia. A few revealing findings from the survey shed additional light on the overall risk management landscape among Croatian MSM companies. First of all, with regards to managed risks and implemented process of risk management, Croatian MSM companies have identified debt collecting as the biggest source of risk which requires management. Second, where risk management methods are concerned, those methods best known among respondents were close cooperation with banks and owners, cash flow analysis, debt collection instruments, and long-term supplier contracts. While micro companies showed lower levels of knowledge than small and medium sized companies, overall the entire sector exhibits disappointingly low levels of knowledge of risk management methods. Third, with regards to risk-measuring practices, break-even point and financial ratio analysis were most often used. From the abovementioned analysis, it may be concluded that Croatian MSM companies are primarily concerned with managing liquidity risks, while they are either unaware of the other sources, or simply don't have sufficient resources, to devote attention to them. Based on all of the above, it may also be concluded that there exists a need for additional education on risk management among employees of non-financial companies in Croatia in order to develop their competences and thus contribute to the overall decrease of weaknesses and unpreparedness of the domestic economy.

REFERENCES

Acs, Z. J. and Storey, D. J. (2004): ***Introduction: Entrepreneurship and economic development***, Regional Studies, 38(8), pp. 871–877. doi: 10.1080/0034340042000280901.

Al-Amri, K. and Davydov, Y. (2016): ***Testing the effectiveness of ERM: Evidence from operational losses***, Journal of Economics and Business, 87, pp. 70–82. doi: 10.1016/j.jeconbus.2016.07.002.

Alpeza, M. *et al.* (2015): ***Small and medium enterprises report − Croatia 2015***. Edited by S. Singer. CEPOR – SMEs and Entrepreneurship Policy Center, Osijek.

Beck, T., Demirguc-Kunt, A. and Levine, R. (2005): ***SMEs, growth, and poverty: Cross-country evidence***, Journal of Economic Growth, 10(3), pp. 199–229. doi: 10.1007/s10887-005-3533-5.

Bistricic, A. and Kuman, A. (2011): ***The Importance Of Small And Medium-Sized Enterprises In The Croatian Economy And In The European Union States Economies***, Scientific Journal of Maritime Research, 1, pp. 145–158.

Bodnar, G. M. *et al.* (2013): ***Risk Management for Italian non-financial firms: Currency and interest rate exposure***, European Financial Management, 19(5), pp. 887–910. doi: 10.1111/j.1468-036X.2012.00659.x.

Brustbauer, J. (2016): ***Enterprise risk management in SMEs: Towards a structural model'*** International Small Business Journal, 34(1), pp. 70–85. doi: 10.1177/0266242614542853.

Cowling, M. *et al.* (2015): ***What really happens to small and medium-sized enterprises in a global economic recession? UK evidence on sales and job dynamics***, International Small Business Journal, 33(5), pp. 488–513. doi: 10.1177/0266242613512513.

Dmitrieva, M. A. (2015): ***Interest Rate Risk and Foreign Exchange Risk Management Practice in Russian Non-Financial Companies***, Journal of the New Economic Association, 2(30), pp. 129–159.

Dumicic, K., Cizmesija, M. and Pavkovic, A. (2005): ***Sample Survey Research On Financial Risk Management: A Case Of Croatian Companies***', in Proceedings of the 8th International Symposium on Operational Research in Slovenia, pp. 273–284.

Dumicic, K., Dumicic, M. and Cukrov, R. (2005): ***Financial Risk Management Instruments Usage in Large and Medium-Sized Enterprises- Business Survey in a Transition Country,*** Irving Fisher Committee Central Bank Statistics Bulletin 22, 22, pp. 96–99.

Dumicic, K. and Knezevic, S. (2007): ***Anketno istrazivanje prakse predvidanja promjena u vlastitome poslovanju i u poslovnome okruzenju hrvatskih poduzeca***, Ekonomski pregled, 58(3–4), pp. 158–180.

Fatemi, A. and Glaum, M. (2000): ***Risk management practices of German firms***, Managerial Finance, 26(3), pp. 1–17. doi: 10.1108/03074350010766549.
Gebremariam, G. H., Gebremedhin, T. G. and Jackson, R. W. (2004): ***The Role of Small Business in Economic Growth and Poverty Alleviation in West Virginia: An Empirical Analysis***, pp. 1-25.

Hudakova, M., Buganova, K. and Dvorský, J. (2015): ***Assessment And Evaluation Of The Impact Of Financial Risk On Small And Medium-Sized Enterprises In Slovakia***, in Proceedings of the 7th International Scientific Conference Finance and Performance of Firms in Science, Education and Practice. Tomas Bata University in Zlin, pp. 442–451.

Milos Sprcic, D. (2007): ***How do Croatian Companies make Corporate Risk Management Decisions: Evidence from the Field***, EFZG Working Paper Series, 13, pp. 1–18.

Muritala, T. A., Awolaja, A. M. and Bako, Y. A. (2012): ***Impact of Small and Medium Enterprises on Economic Growth and Development,*** American Journal of Business and Management, 1(1), pp. 18–22.

Pesic, M. (2010): ***Financiranje malog i srednjeg poduzetništva u Republici Hrvatskoj***, Ekonomski vijesnik, 24(2), pp. 430–435.

Radas, S. and Bozic, L. (2009): ***The antecedents of SME innovativeness in an emerging transition economy,*** Technovation, 29(6–7), pp. 438–450. doi: 10.1016/j.technovation.2008.12.002.

Rajsman, M. and Petricevic, N. (2013): ***Razvoj Malog Gospodarstva U Republici Hrvatskoj***, Ekonomski Vjesnik, 26(1), pp. 250–263.

Smithson, C. and Simkins, B. J. (2005): ***Does Risk Management Add Value? A Survey of the Evidence***, Journal of Applied Corporate Finance, 17(3), pp. 8–17.

Stiller, D. and Peter, J. (2014): ***Risk Management in Companies –A Questionnaire as an Instrument for Analysing the Present Situation***, Research Papers Faculty of Materials Science and Technology Slovak University of Technology, pp. 83–88. doi: 10.2478/rput-2014-0012.

Virglerova, Z., Kozubikova, L. and Vojtovic, S. (2016): ***Influence of selected factors on financial risk management in SMEs in the Czech Republic***, Montenegrin Journal of Economics, 12(2), pp. 21–36. doi: 10.14254/1800-5845.2016/12-1/1.

Appendix A

Table 5: Close co-operation with the bank (opened credit line and /or possibility for quick loan realization)

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	173	79,4	110	50,5
	No	21	9,6	84	38,5
	Do not know not sure	24	11,0	24	11,0
	Total	218	100,0	218	100,0
Small 10-49	Yes	96	89,7	76	71,0
	No	7	6,5	21	19,6
	Do not know not sure	4	3,7	10	9,3
	Total	107	100,0	107	100,0
Medium 50-249	Yes	42	95,5	34	77,3
	No	-	-	5	11,4
	Do not know not sure	2	4,5	5	11,4
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 6: Close co-operation with the owner (potential finance source)

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	152	69,7	134	61,5
	No	29	13,3	48	22,0
	Do not know not sure	37	17,0	36	16,5
	Total	218	100,0	218	100,0
Small 10-49	Yes	94	87,9	77	72,0
	No	2	1,9	15	14,0
	Do not know not sure	11	10,3	15	14,0
	Total	107	100,0	107	100,0
Medium 50-249	Yes	39	88,6	36	81,8
	No	2	4,5	4	9,1
	Do not know not sure	3	6,8	4	9,1
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 7: Cash flow analysis

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	157	72,0	140	64,2
	No	34	15,6	50	22,9
	Do not know not sure	27	12,4	28	12,8
	Total	218	100,0	218	100,0
Small 10-49	Yes	93	86,9	91	85,0
	No	6	5,6	9	8,4
	Do not know not sure	8	7,5	7	6,5
	Total	107	100,0	107	100,0
Medium 50-249	Yes	40	90,9	39	88,6
	No	1	2,3	-	-
	Do not know not sure	3	6,8	5	11,4
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 8: Instruments for debt collecting (banks guarantees, letter of credit, IOU, promissory notes)

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	146	67,0	107	49,1
	No	44	20,2	87	39,9
	Do not know not sure	28	12,8	24	11,0
	Total	218	100,0	218	100,0
Small 10-49	Yes	95	88,8	86	80,4
	No	7	6,5	9	8,4
	Do not know not sure	5	4,7	12	11,2
	Total	107	100,0	107	100,0
Medium 50-249	Yes	41	93,2	35	79,5
	No	3	6,8	5	11,4
	Do not know not sure	-	-	4	9,1
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 9: Assets and liability analysis

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	131	60,1	91	41,7
	No	57	26,1	96	44,0
	Do not know not sure	30	13,8	31	14,2
	Total	218	100,0	218	100,0
Small 10-49	Yes	79	73,8	70	65,4
	No	11	10,3	18	16,8
	Do not know not sure	17	15,9	19	17,8
	Total	107	100,0	107	100,0
Medium 50-249	Yes	39	88,6	31	70,5
	No	1	2,3	7	15,9
	Do not know not sure	4	9,1	6	13,6
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 10: Changing price and/or marketing strategy flexibility

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	124	56,9	95	43,6
	No	51	23,4	81	37,2
	Do not know not sure	43	19,7	42	19,3
	Total	218	100,0	218	100,0
Small 10-49	Yes	76	71,0	63	58,9
	No	14	13,1	25	23,4
	Do not know not sure	17	15,9	19	17,8
	Total	107	100,0	107	100,0
Medium 50-249	Yes	38	86,4	33	75,0
	No	2	4,5	7	15,9
	Do not know not sure	4	9,1	4	9,1
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 11: Long-term contract with suppliers

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	152	69,7	109	50,0
	No	42	19,3	84	38,5
	Do not know not sure	24	11,0	25	11,5
	Total	218	100,0	218	100,0
Small 10-49	Yes	88	82,2	69	64,5
	No	6	5,6	22	20,6
	Do not know not sure	13	12,1	16	15,0
	Total	107	100,0	107	100,0
Medium 50-249	Yes	41	93,2	36	81,8
	No	1	2,3	4	9,1
	Do not know not sure	2	4,5	4	9,1
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 12: Forward contracts

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	72	33,0	46	21,1
	No	108	49,5	131	60,1
	Do not know not sure	38	17,4	41	18,8
	Total	218	100,0	218	100,0
Small 10-49	Yes	46	43,0	30	28,0
	No	42	39,3	48	44,9
	Do not know not sure	19	17,8	29	27,1
	Total	107	100,0	107	100,0
Medium 50-249	Yes	30	68,2	20	45,5
	No	7	15,9	13	29,5
	Do not know not sure	7	15,9	11	25,0
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 13: Future contracts

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	55	25,2	27	12,4
	No	120	55,0	144	66,1
	Do not know not sure	43	19,7	47	21,6
	Total	218	100,0	218	100,0
Small 10-49	Yes	37	34,6	20	18,7
	No	47	43,9	54	50,5
	Do not know not sure	23	21,5	33	30,8
	Total	107	100,0	107	100,0
Medium 50-249	Yes	24	54,5	10	22,7
	No	10	22,7	19	43,2
	Do not know not sure	10	22,7	15	34,1
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 14: Options

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	44	20,2	22	10,1
	No	123	56,4	142	65,1
	Do not know not sure	51	23,4	54	24,8
	Total	218	100,0	218	100,0
Small 10-49	Yes	31	29,0	17	15,9
	No	47	43,9	53	49,5
	Do not know not sure	29	27,1	37	34,6
	Total	107	100,0	107	100,0
Medium 50-249	Yes	22	50,0	9	20,5
	No	11	25,0	20	45,5
	Do not know not sure	11	25,0	15	34,1
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 15: Swaps

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	52	23,9	29	13,3
	No	119	54,6	133	61,0
	Do not know not sure	47	21,6	56	25,7
	Total	218	100,0	218	100,0
Small 10-49	Yes	31	29,0	13	12,1
	No	46	43,0	57	53,3
	Do not know not sure	30	28,0	37	34,6
	Total	107	100,0	107	100,0
Medium 50-249	Yes	20	45,5	9	20,5
	No	14	31,8	22	50,0
	Do not know not sure	10	22,7	13	29,5
	Total	44	100,0	44	100,0

Source: Authors calculations

Appendix B

Table 16: Break-even point

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	132	60,6	113	51,8
	No	60	27,5	76	34,9
	Do not know not sure	26	11,9	29	13,3
	Total	218	100,0	218	100,0
Small 10-49	Yes	73	68,2	64	59,8
	No	10	9,3	19	17,8
	Do not know not sure	24	22,4	24	22,4
	Total	107	100,0	107	100,0
Medium 50-249	Yes	39	88,6	39	88,6
	No	1	2,3	5	11,4
	Do not know not sure	4	9,1	-	-
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 17: What-if analysis

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	97	44,5	73	33,5
	No	92	42,2	112	51,4
	Do not know not sure	29	13,3	33	15,1
	Total	218	100,0	218	100,0
Small 10-49	Yes	69	64,5	51	47,7
	No	14	13,1	32	29,9
	Do not know not sure	24	22,4	24	22,4
	Total	107	100,0	107	100,0
Medium 50-249	Yes	29	65,9	28	63,6
	No	9	20,5	9	20,5
	Do not know not sure	6	13,6	7	15,9
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 18: Decision tree

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	36	16,5	20	9,2
	No	137	62,8	150	68,8
	Do not know not sure	45	20,6	48	22,0
	Total	218	100,0	218	100,0
Small 10-49	Yes	34	31,8	18	16,8
	No	39	36,4	54	50,5
	Do not know not sure	34	31,8	35	32,7
	Total	107	100,0	107	100,0
Medium 50-249	Yes	13	29,5	8	18,2
	No	24	54,5	28	63,6
	Do not know not sure	7	15,9	8	18,2
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 19: Risk matrix

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	44	20,2	32	14,7
	No	126	57,8	140	64,2
	Do not know not sure	48	22,0	46	21,1
	Total	218	100,0	218	100,0
Small 10-49	Yes	38	35,5	23	21,5
	No	36	33,6	47	43,9
	Do not know not sure	33	30,8	37	34,6
	Total	107	100,0	107	100,0
Medium 50-249	Yes	25	56,8	20	45,5
	No	12	27,3	17	38,6
	Do not know not sure	7	15,9	7	15,9
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 20: Sensitivity analysis

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	49	22,5	36	16,5
	No	125	57,3	135	61,9
	Do not know not sure	44	20,2	47	21,6
	Total	218	100,0	218	100,0
Small 10-49	Yes	38	35,5	27	25,2
	No	39	36,4	49	45,8
	Do not know not sure	30	28,0	31	29,0
	Total	107	100,0	107	100,0
Medium 50-249	Yes	27	61,4	24	54,5
	No	10	22,7	10	22,7
	Do not know not sure	7	15,9	10	22,7
	Total	44	100,0	44	100,0

Source: Authors calculations

Table 21: Financial ratios analysis

Size	Answer	Knowledge Freq.	Knowledge %	Practice Freq.	Practice %
Micro 0-9	Yes	130	59,6	122	56,0
	No	59	27,1	64	29,4
	Do not know not sure	29	13,3	32	14,7
	Total	218	100,0	218	100,0
Small 10-49	Yes	81	75,7	81	75,7
	No	11	10,3	11	10,3
	Do not know not sure	15	14,0	15	14,0
	Total	107	100,0	107	100,0
Medium 50-249	Yes	39	88,6	38	86,4
	No	2	4,5	2	4,5
	Do not know not sure	3	6,8	4	9,1
	Total	44	100,0	44	100,0

Source: Authors calculations

Prof. Mirna Leko Šimić, PhD
Josip Juraj Strossmayer University of Osijek
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7
31 000 Osijek
Phone: +385/91224-238 Fax: +385/211-604
E-mail address: lekom@efos.hr

Jasminka Mihaljević, M.Sc.
Josip Juraj Strossmayer University of Osijek
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7
31 000 Osijek
Phone: +385/91224-4015 Fax: +385/211-604
E-mail address: jasminka.mihaljevic@efos.hr

Marija Tolušić, univ. spec. oec.
Josip Juraj Strossmayer University of Osijek
Department of Cultural Studies
Trg Svetog Trojstva 3
31 000 Osijek
Phone: +385/98630-050Fax: +385/224-207
E-mail address: mtolusic@kulturologija.unios.hr

ACADEMIC LIBRARIES AND THE SOCIAL RESPONIBILITY CHALLENGE

VISOKOŠKOLSKE KNJIŽNICE I IZAZOVI DRUŠTVENO ODGOVORNOG POSLOVANJA

ABSTRACT

Quality and performance of academic library in medium and long term depends on the higher education institution it belongsto, limitations of government as its major source of financing as well as on general development and social trends related to the activities and goals set in the process of library foundation. Academic libraries are constantly challenged with increasing requirements from their benficiaries – customers but also with issues of sustainablity, environment and social responsibility.The aim of this paper is to identify the major components and principles of library social responsibility and sustainablity that need to be implemented in order to successfully meet the above mentioned challenges. The purpose of the research is to introduce the new proactive role of academic library based upon HEI and library management with emphasis on promoting values of social responsibility and in accordance with requirements of ecologically conscious society.The suggested model of academic library social responsibility is based on modified methodology of CSR Index created by Croatian Business Council and Croatian Chamber of Commerce that is used to measure social responsibility in Croatian companies. Research results have enabled creation of social responsibility matrix model for academic libraries. The model has identified the criteria for evaluation and self-evaluation of academic libraries.

Key words: *socially responsible library, sustainable library, academic library, green library.*

SAŽETAK

Kvaliteta poslovanja visokoškolskih knjižnica u sastavu fakulteta u srednjoročnom i dugoročnom razdoblju ovisi o strategiji fakulteta u čijem su sastavu, ograničenjima države kao financijera te općim razvojnim i društvenim tendencijama usmjerenim za ostvarivanje funkcije radi koje su knjižnice osnovane i zakonski definirane. Visokoškolske knjižnice kontinuirano se suočavaju i sa novim zahtjevima korisnika,ali i potrebama za promišljanjem o pitanjima održivog poslovanja, brizi o zaštiti okoliša i društveno odgovornom poslovanju. Cilj rada je utvrditi koje komponente i načela društveno odgovornog poslovanja (DOP-a) i održivog razvoja treba implementirati u poslovanje visokoškolskih knjižnica kao odgovor na navedene zahtjeve. Svrha rada je prezentirati novu, proaktivnu ulogu knjižnice koja se zasniva na dragovoljnoj odluci vodstva ustanove i knjižnice u smjeru promoviranja vrijednosti društveno odgovornog poslovanja i zahtjeva ekološki osviještenog društva. Polazna osnova za definiranje modela je modificirana metodologija Indeksa DOP-a Hrvatskog poslovnog savjeta za održivi razvoj i Hrvatske gospodarske komore, koji ocjenjuje društveno odgovorne prakse poduzeća u Hrvatskoj. Provedeno istraživanje je omogućilo definiranje modela društveno odgovorne visokoškolske knjižnice. Ovaj model društveno odgovorne visokoškolske knjižnice definira kriterije pokojima se može provesti vrednovanje i samovrednovanje knjižnica obzirom na primjenu prihvaćenih načela DOP-a.

Ključne riječi: *društveno odgovorna knjižnica, održivi razvoj, visokoškolska knjižnica, zelena knjižnica.*

1. Introduction

Social responsibility is a concept widely adopted by companies and other organizations nowadays. It means that these organizations voluntarily integrate different social issues involving their owners, employees, suppliers, customers as well as media and public and environment protection, into their business policies. Murillo and Martinek (2009, 4-5) have defined it as an expansion of social stewardship. The concept applied to academic library points to the value system and relationships that the library and the higher institution it belongs to develop with regards to their stakeholders: employees, customers, users, competition, as well as to the local community and environment. According to Simmonds and Andaleeb (2001, 628) academic library is a „heart“ of the learning community, providing numerous services to its different users. During last few decades it has been challenged with increased availability and number of data and information sources. Its role is therefore significantly changing –service quality, not only in collecting, but also in organizing, preserving and making knowledge available is getting a crucial role in its functioning. Just like in the business sector, academic library social responsibility is a tool for achieving sustainable development. In the context of academic library it means implementation of behaviors that save resources, renew used resources, recycle and similar.

In this context, the purpose of the paper is to emphasize the new, proactive role of the academic library in the social responsibility context. The aims of the research are to give the overview of current research of academic library social responsibility and test the model of library social responsibility in Croatian context.

2. Literature overview

The global strategy of social responsibility and sustainable development represents the highest level of commitment in general. UN (United Nations) as the major body working on global development is for decades concerned with the issue of global and local sustainability. In 2015 leaders of UN members have created the 2030 Agenda for Sustainable Development. The document calls for social responsibility at all levels – governments, private sector, civil society and individuals through achievement of 17 goals to suppress poverty, protect the planet and insure development (UN, 2015, 14). In accordance with the Agenda, academic libraries on international level have joined the program of social responsibility and sustainability implementation through various activities: education for sustainable development, green literacy, and sustainable thinking. Sustainable thinking refers to the alignment of academic library's core values and resources—including staff time and energy, facilities, collections, and technology—with the local and global community's' right to endure, bounce back from disruption, and thrive by bringing new and energetic life to fruition through choices made in all areas of library operations and outreach (Smith Aldrich, 2017)

The IFLA (International Federation of Library Associations and Institutions) is the leading international body representing the interests of library and information services and their users. "IFLA has been actively involved in the process of creating the Sustainable Development Goals over the last years and has advocated for the importance of access to information, Information and Communication Technologies, culture and universal literacy, all of which have been included in the UN 2030 Agenda" (IFLA, 2016). In addition, IFLA has proclaimed the whole set of recommendations for libraries that follow the goals of sustainable development and 2030 Agenda. In 2018, IFLA has for the first time dedicated its yearly meeting World Library and Information Congress to the issue of sustainability. After that, a special interest group on Environment, Sustainability and Libraries was established. The major goal of the group is to define the mission and activities for inclusion of libraries into environment protection and social responsibility. The 2018 Congress will be organized in Malaysia under motto „transform libraries, transform societies" with social responsibility as one of the major topics, making clear that libraries have to transform parallel with increasing requirements for social responsibility (IFLA, 2018). In 2016 IFLA has launched the Green Library Award with the aim of raising awareness about social responsibility and leading role of libraries in environment protection education.

A significant contribution to the issue of library social responsibility was given by ALA (American Library Association). Already in 1933 at ALA congress in Chicago Arundell Esdaile talked about library social responsibility in terms of the importance of books and reading and how free access to books and ideas is a tenet of a free society (Esdaile, 1933, 572). One of the most important sections of ALA is the SRRT (Social Responsibility Round Table, 1969) that works on promotion of social responsibility as a core value of librarianship. They believe that libraries and librarians must help in solving social problems and inequalities in order to fulfill their mission of providing social well-being and democracy. In 1970, ALA gave one of the first definitions of socially responsible library: "Social responsibilities can be defined as the relationships that librarians and libraries have to non-library problems that relate to the social welfare of our society" (Curley, 1974). One of the most important documents in ALA activities is the Resolution on the Importance of Sustainable Libraries in 2015. The resolution emphasizes the proactive role of libraries in application of sustainable thinking (ALA, 2015).

NYLA (New York Library Association) has created a Sustainable Library Certification Program (NYLA, 2018) which gives step-by-step guidance for library activities that help creating socially responsible organizational culture and its sustainable development. The document claims that creating sustainable communities starts by creating a sustainable library.

ASHE (Association for the Advancement of Sustainability in Higher Education) has created a system of measurement and evaluation of academic libraries social responsibility and possibilities for their certification as green libraries. The association emphasizes the need for academic library inclusion in sustainability curriculum creation. Library strategic plans need to be grounded as a combination of three standard dimensions of sustainability: social, economic and environmental (Jankowska et al., 2014).

The need for socially responsible model application in academic libraries was further researched by rather small number of librarians and academics.[1] However, the emphasis in most of these publications is on green and ecological activities that make only a part of socially responsible behavior.

In Croatia, the first systematically organized approach to library social responsibility was in the Green Library Project organized by Library Association of Istria (Društvo bibliotekara Istre, 2011). Croatian Library Association has launched a campaign for green libraries in 2014 with the aim to create a network of green libraries based on coherency of concepts of ecology and librarianship. In 2012, National Academic Library in cooperation with UNDP (United Nations Development Program) has opened a green library of energy efficiency and in 2016 launched a project "Green Library for Green Croatia" with the aim to improve ecological literacy of library customers. The first international conference on green libraries in Croatia will be organized in 2018, and the general assembly of Croatian Library Association in 2018 topic is the role of libraries in accomplishing global sustainable development goals of UN Agenda 2030.

Despite numerous practical activities in the area of green and ecology topics related to libraries, there are only a few significant published studies on the topic.[2] There is a significant research gap in areas and criteria that cover other areas of academic library social responsibility and sustainability.

3. Research

The research had two goals: to create a comprehensive model of academic library social responsibility and to test the model by analysis of attitudes related to the issue of some of the important academic library stakeholders. The model consists of number of elements categorized into five basic areas of social responsibility: inclusion of corporate social responsibility in strategic documents of the library and higher education institution it belongs to, compliance with principles of sustainability and environment protection, relations with the environment and local community, working environment in the library and higher education institution and green/ecology activities of the academic library. These areas were identified in different reports we studied in the literature review:

1. The modified methodology of CSR Index, created by Croatian business council for sustainable development (HRPSOR), and Croatian Chamber of Commerce (HGK). This model identifies six areas of corporate social responsibility, and they are adapted to suit to academic library specifics in our research.
2. Spanish expert network of academic libraries (REBIUN) study "Libraries' contribution to university social responsibility and sustainability" (REBIUN, 2012) and their report titled "The

[1] See more: Stevens (1989); Jankowska (2008); Morron, Friedman (2009)
[2] See more: Kraljević (2013); Balog Petr, Siber (2014); Bugarski, Szabo (2018); Čadovska, Tkalčić (2017)

academic libraries & the social responsibility challenge: REBIUN report" (Marraud, g., Ferrer, A., 2017).

3. Report of IFLA „IFLA Statement on Libraries and Sustainable Development“ (IFLA, 2016) which calls libraries and librarians to support and promote principles of sustainable development.
4. Reports of different working groups on socially responsible libraries like International Sustainable Library Development Interest Group, part of the ALA (IRRT, 2017), Social Responsibilities Round Table (SRRT), units within the ALA and others.

Inclusion of corporate social responsibility in strategic documents of the library and higher education institution it belongs to, is the first area where social responsibility principles can be implemented in academic library. It calls for active participation of academic library in all socially responsible initiatives of HEI it belongs to. It presumes that principles of social responsibility are implemented in all documents and plans of library activities and that the responsibilities for socially responsible activities are defined. It also includes transparent and regular reporting on those activities to HEI management and all other relevant bodies as well as general public.

Regulation and financial resources: compliance with principles of sustainability and environment protection calls for creation of Book of rules on work safety and library resources protection, appointment of person responsible for the work safety and environment protection in the library and available financial resources for planned activities.

Building socially responsible relations between academic library and the environment and local community includes customer privacy protection and health and safety care, evaluation of customer satisfaction, development of networks with other relevant stakeholders in the community, active donations and sponsorships as library staff volunteering.

Internal CSR: improving working environment in the library and higher education institution, so that each and every employee and customer can maximize the utility, to develop high quality communication and invest into librarian permanent education and enable his/her career development. Systematic review of work and evaluation of library employees is also important in this context.

Green and ecological library activities can include implementation of green building principles, usage of renewable energy sources and energy saving behavior. An important part of this item is purchase of digital sources, like e-books, e-data sources and e-journals and digitalization of all library processes. These activities may also include volunteering activities of librarians. An important issue in this context is also green education and literacy improvement of library users and organization of workshops and lectures on social responsibility and ecology, as well as other projects, like used paper recycling waste management and cooperation with other green libraries and other stakeholders that are engaged in ecologic activities.

3.1. Methodology

The survey was created in order to test the perceived importance of identified areas of academic library social responsibility and offer a model for evaluation of academic library social responsibility. Altogether 80 respondents took part in. The sample includes academic staff of higher education institutions that research social responsibility (25.6%), academic staff of library and information science higher education institutions (25.2%), librarians (6.3%) and directors of academic libraries in Croatia (42.9%).

3.2. Research results and discussion

Research results summary is shown in table 1.

Table 1 *Evaluation of model components*

AREA	AVERAGE GRADE
Inclusion of corporate social responsibility in strategic documents	3.94
Regulation and financial resources	3.91
Networking - building socially responsible relations between academic library and the environment and local community	4.30
Internal CSR	4.36
Green and ecological library activities	4.26
TOTAL MODEL	**4.15**

Source: Authors

According to research results, the most important area of academic library social responsibility is the working environment in the library and higher education institution it belongs to. The average grade for this area is 4.36 on 5-point scale. The most important item in this area, but also the most important single item in the whole model, is investment into life-long education of academic library employees (4.54), while the least important item (4.04) is the employment policy that cares about disabled, national minorities and gender equality. This are can be identified as internal social responsibility issue and might be perceived as the issue that mostly worries the librarians and academic staff around libraries.

The second most important area of social responsibility in academic libraries are relations with the environment and local community (4.30), where the most important item are privacy and legal rights protection (both 4.61). The least important item in this area is humanitarian engagement and volunteering of librarians, with average grade of 3.87.

The third ranked area is are green and ecological library activities (4.26). This area is usually perceived as the most visible and important part of social responsibility, but in our case, it was only ranked as third important issue. The most important item in this area, as perceived by respondents, is digitalization of all processes in the library and responsible usage of office supplies (4.43). The least important item is networking with other “green” stakeholders, like libraries, non-profit organizations and similar (4.10).

The average grade of 3.94 was given to inclusion of corporate social responsibility in strategic documents of the library and higher education institution it belongs to. The most important item in this area is inclusion of social responsibility and sustainability principles into library strategic document, with average grade of 4.34, and the least important was participation of academic library in socially responsible activities and initiatives of the institution it belongs to, with average grade of 3.14, which is also the least important single item of the whole model. This result indicates that academic libraries do not consider having high quality relations with their parent institution, especially from the social responsibility and sustainability perspective. This seems to be an important area for improvement.

Our respondents perceive that existence of Book of rules on library social responsibility, person responsible for the work safety and environment protection in the library and available financial resources for planned activities is the least important area of academic library social responsibility

(3.91). Creation of Book of rules is the most important item of this area (4.38) and having an appointed person responsible for these activities is the least important item (3.65).

These overall results suggest that the model is highly applicable for academic library social responsibility evaluation. It also indicates that education plays a crucial role in developing socially responsible and sustainable behavior, while in the same time documents and papers do not significantly contribute to the development of social responsibility. We could conclude that there is a perception of significant gap between "paper principles" and their practical implementation.

Furthermore, ANOVA test was carried out in order to test differences in perception of the model between librarians as internal stakeholders and non-librarians as external stakeholders. The only statistically significant difference was found in the area of inclusion of corporate social responsibility in strategic documents, where it was significantly more important to non-librarians:
-for participation in institutional CSR activities ($F=5.914$; $p=,0017$)
-for inclusion of CSR policies into library documents (strategy, mission, etc.) ($F=9.620$; $p=,0.003$)
-for library CSR reporting to external stakeholders ($F=10.452$; $p=,002$).

The fact that librarians did not find it important to include CSR policy into library and institutional documents and to report to external stakeholders is another confirmation of above stated claim about "paper principles", but the fact that it is neither important to create and participate in the institutional CSR practices, might indicate that the librarians feel excluded from CSR activities outside of the library. This needs to be changed, since significant synergic effects are lost if such activities are not coordinated.

In all other areas of the proposed model there were no significant differences between the two groups.

4. Conclusion

The aim of this paper was to create a model of academic library social responsibility and test its dimensions with different stakeholders of academic libraries. The reason for this topic choice was the fact that although social responsibility is a widely accepted and implemented concept in corporate world and there is a significant amount of available research in this area, there is a significant gap in both systematic implementation and scientific research of social responsibility in academic libraries.

The model of academic library social responsibility has identified five key areas of social responsibility that can be applied in academic library: inclusion of corporate social responsibility in strategic documents of the library and higher education institution it belongs to, compliance with principles of sustainability and environment protection, relations with the environment and local community, working environment in the library and higher education institution and green/ecology activities of the academic library.

The survey included 80 respondents' – experts in the area of librarianship and social responsibility. It tested attitudes and opinions on these areas and it gives generally positive feedback, with a total average grade of 4.15 of the model, which makes it highly applicable for implementation in evaluation of library social responsibility.

The major limitation of this research is the fact that library users were not part of it. Students and academic staff as a specific stakeholder segment of academic library can provide some new insights into the most important areas of library social responsibility. Therefore, future research should include them too.

The created model of academic library social responsibility will be further tested through the creation of questionnaire that academic libraries can use to do self-evaluation on the topic. Our special interest is to conduct a survey of this type with members of the Croatian green libraries network. Expected results could serve as a benchmark for all academic and non-academic libraries.

REFERENCES

American Library Association (2015): **Resolution on the Importance of Sustainable Libraries in 2015,** http://libguides.ala.org/SustainableLibraries, (accessed 20 September 2017)

Balog, K. P., Siber, Lj. (2014): **Green libraries: libraries' contribution to energy efficiency,** in 3. međunarodni znanstveni simpozij Gospodarstvo Istočne Hrvaatske: vizija i razvoj= 3rd international scientific symposium Economy of Eastern Croatia: vision and growth, Proceedings, Sveučilište J. J. Strosmayera u Osijeku, Ekonomski fakultet u Osijeku et al., 2014, Vol. 3, pp. 478-487

Bugarski, M., Szabo, V. (2018): **Projekt gradske knjižnice Vukovar-Ekoknjižnica: za prijateljstvo s prirodom**, Vjesnik bibliotekara Hrvatske, Vol. 60, No. 2-3, pp. 295-303

Curley, A. (1974) **Social responsibility and libraries**. Advances in librarianship, Vol 4, pp. 77-90

Čadovska, I., Tkalčić, A-M. (2017): **Zelena pismenost kao dio strategije razvoja informacijske službe**, Vjesnik bibliotekara Hrvatske, Vol 60, No. 1, pp. 65-77.

Društvo bibliotekara Istre(2011): **Zelena knjižnica,** http://zk.dbi.hr/, (accessed 10 September 2017)

Esdaile, A. (1933): **The social responsibility of the modern library,** Bulletin of the American Library Association, Vol. 27, No. 13, 572-576., https://www.jstor.org/stable/25688031?seq=1#page_scan_tab_contents, (accessed 2 December 2017)

Hrvatski poslovni savjet za održivi razvoj: **Upitnik za Indeks DOP-a,** http://hrpsor.hr/indeks-dop-a-2-452.html, (accessed 1 September 2017)

Hrvatsko knjižničarsko društvo (2018): **1. međunarodna konferencija o zelenim knjižnicama,** https://www.hkdrustvo.hr/hr/obavijesti/odabrana_novost/904/?target=/, (accessed 21 March 2018)

International Federation of Library Associations and Institutions (2016): **Access and opportunity for all: How libraries contribute to the United Nations 2030 Agenda,** https://www.ifla.org/files/assets/hq/topics/libraries-development/documents/access-and-opportunity-for-all.pdf, (accessed 2 December 2017)

International Federation of Library Associations and Institutions(2018): **World Library and Information Congress 2018,** https://2018.ifla.org/greetings-from-nc-malaysia, (accessed 2 March 2018)

International Federation of Library Associations and Institutions, Reference and Information Services Section (2016): **RISS Statement on Libraries and Development**, https://www.ifla.org/publications/node/10830, (accessed 20 September 2017)

International Sustainable Library Development Interest Group(2017): **Libraries for the Global Community: Their Sustainability and Impact** , http://www.ala.org/rt/irrt/irrtcommittees/isld/isld, (accessed 21 December 2017)

Jankowska, M. A. (2008): **A call for sustainable library operations and services: A response to ACRL's 2007 environmental scan**, College *&* Research Libraries News, Vol.69, No. 6, pp. 323-324, https://crln.acrl.org/index.php/crlnews/article/viewFile/8005/8005, (accessed 27 September 2017)

Jankowska, M. A., Smith, B. J., & Buehler, M. A. (2014). Engagement of academic libraries and information science schools in creating curriculum for sustainability: an exploratory study.The Journal of Academic Librarianship, 40(1), 45-54; https://escholarship.org/uc/item/26x4x2sw, (accessed 15 September 2017)

Kraljević, I. (2013): **Zelena knjižnica: projekt Društva bibliotekara Istre,** Vjesnik bibliotekara Hrvatske, Vol. 56, No.3, pp. 199-204

Marraud, g., Ferrer, A. (2017): **The academic libraries & the social responsibility challenge: REBIUN report**, https://www.rebiun.org/sites/default/files/2017-11/2014%20Poster%20Social%20Responsability%20Challenge-%20REBIUN%20report_0.pdf, (accessed 2 March, 2017)

Morrone, M., Friedman,L. (2009): **Radical Reference: Socially Responsible Librarianship Collaborating with Community**, The Reference Librarian, Vol 50, No. 4, pp. 371-396., DOI: 10.1080 / 02763870903267952, (accessed 20 September 2017)

Murillo, R., Martinek, C. (2009): **Corporate social responsibility can be profitable**, The Regional Economistt, Federal Reserve Bank of St. Louis, issue Apr, pp. 4-5, https://ideas.repec.org/a/fip/fedlre/y2009iaprp4-5.html, (accessed 2 October 2017)

Nacionalna i sveučilišna knjižnica u Zagrebu (2012): **Zelena knjižnica energetske efikasnosti u Nacionalnoj i sveučilišnoj knjižnici u Zagrebu,** http://www.nsk.hr/otvorena-zelena-knjiznica-energetske-efikasnosti-u-nacionalnoj-i-sveucilisnoj-knjiznici-u-zagrebu/, (accessed 10 September 2017)

Nacionalna i sveučilišna knjižnica u Zagrebu (2016): **Zelena knjižnica za zelenu Hrvatsku,** http://www.nsk.hr/nacionalna-sveucilisna-knjiznica-zagrebu-predstavila-projekt-zelena-knjiznica-zelenu-hrvatsku/, (accessed 20 September 2017)

New York Library Association (2018): **Sustainable Library Certification Program. Step-by-step guidance to help your library become a sustainability leader in your community,** https://www.nyla.org/max/4DCGI/cms/review.html?Action=CMS_Document&DocID=2251&MenuKey=si, (accessed 21 March 2018)

Simmonds, P .L:, Andaleeb, S. S. (2001): **Usage of academic libraries: the role of service quality, resources and user characteristics**, Library Trends, Vol. 49, No. 4, pp. 626-634, http://www.statsqual.org/documents/admin/Simmonds.pdf , (accessed 1 October 2017)

Smith Aldrich, R. (2017): **Libraries and Sustainable Thinking**, American libraries magazine, April 2017, https://americanlibrariesmagazine.org/blogs/the-scoop/libraries-and-sustainable-thinking/, (accessed 2 October 2017)

Social Responsibilities Round Table (1969): **Task Forces,** http://libr.org/srrt/about.php, (accessed 2 October 2017)

Social Responsibilities Round Table of the (SRRT): **SRRT Newsletter,** http://libr.org/srrt/news/srrt168.php#6.1, (accessed 29 September 2017)

Spanish expert network of academic libraries (REBIUN) (2012): **Libraries' contribution to university social responsibility and sustainability,** http://eprints.rclis.org/19547/1/IIIPE_Informe_Linea1_Responsabilidad_Social_Universitaria_bibliotecas_english_2013.pdf, (accessed 2 October 2017)

Stevens, D. (1989): **Social Responsibility and Librarianship: A Dilemma of Professionalism**, Canadian library journal, Vol. 46, No. 1, pp. 17-22, https://eric.ed.gov/?id=EJ389310, (accessed 27 September 2017)

United Nations (2015): **Resolution adopted by the General Assembly on 25 September 2015, Transforming our world: the 2030 Agenda for Sustainable 1-35 Development,** http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E, (accessed 2 October 2017)

Antonija Petrlić, MEcon, Assistant, Ph.D. student
University of Rijeka, Faculty of Economics
Ivana Filipovića 4, Rijeka
Phone: +385 51 355 106
E-mail address: antonija.petrlic@efri.hr

Mirjana Grčić Fabić, Ph.D., Assistant Professor
University of Rijeka, Faculty of Economics
Ivana Filipovića 4, Rijeka
Phone: +385 51 355 103
E-mail address: mirjana.grcic.fabic@efri.hr

Neda Vitezić, Ph.D., Full Professor
University of Rijeka, Faculty of economics
Ivana Filipovića 4, Rijeka
Phone: +385 51 355 126
E-mail address: neda.vitezic@efri.hr

REPORTING SYSTEM ADJUSTMENT FOR THE PURPOSE OF MEASURING THE EFFICIENCY OF PUBLIC HEALTH SERVICES

PRILAGODBA SUSTAVA IZVJEŠTAVANJA ZA POTREBE MJERENJA EFIKASNOSTI JAVNOZDRAVSTVENIH USLUGA

ABSTRACT

Disease prevention, preservation and improvement of health are the fundamental activities of the public health system and health quality determinants at national level. Thereby, strive is to maximize the efficiency and effectiveness of certain activities which implies a developed reporting system as a prerequisite for measuring achieved results. The public health system in the Republic of Croatia is organized through health and public health institutes at county level. Their activities are aimed at improving the health of the population. The purpose of this paper is to investigate the current reporting and efficiency measurement system and to suggest improvements that will enable the implementation and integration of strategic thinking of organizational units within the public health system. The use of contemporary methods and strategic management tools requires a comprehensive and unified system that ensures information base for monitoring the efficiency of results and the effectiveness of set goals. Accordingly, the objectives of the research are to identify the features of the existing reporting system on the efficiencyand effectiveness of public health services and related organizational structure on a sample of four regional public health institutes and the national institute, whichrepresent the majority of public health services in the Republic of Croatia. The analysis was conducted based on a survey, interviews and available official data for six common organizational units. The major results show discrepancy incertain forms of reporting between the institutes and the inconsistency of organizational solutions for the implementation of particular programs and activities, with an emphasis on internal recording, analysis and reporting. The contribution of this paper is in the critical analysis and the proposed reporting system model as a basis for measuring the efficiency using modern strategic tools, for the purpose of evaluating and developing health care programs, health standards and promoting overall population health.

Key words: *public health services, reporting system, strategic thinking, efficiency.*

SAŽETAK

Prevencija bolesti, očuvanje i unapređenje zdravlja temeljne su aktivnosti javnozdravstvenog sustava i odrednice kvalitete zdravstva na nacionalnoj razini. Pri tome se teži što većoj efikasnosti i efektivnosti pojedinih aktivnosti što podrazumijeva razvijen sustav izvještavanja kao preduvjet mjerenja dostignutih rezultata. Javnozdravstveni sustav u Republici Hrvatskoj organiziran je kroz zdravstvene ustanove i zavode za javno zdravstvo na županijskoj razini čije aktivnosti su usmjerene naunapređenjezdravljastanovništva. Svrha ovog rada je istražiti dosadašnji sustav izvještavanja i mjerenja efikasnosti te predložiti poboljšanja koja će omogućiti implementaciju i integraciju strateškog promišljanja organizacijskih jedinica unutar sustava javnog zdravstva. Korištenje suvremenih metoda i alata strateškog upravljanja zahtjeva sveobuhvatni i unificirani sustav osiguranja informacijske osnovice za praćenje efikasnosti rezultata i efektivnosti postavljenih ciljeva. Sukladno tome ciljevi istraživanja su utvrditi obilježja postojećeg sustava izvještavanja o učinkovitosti javnozdravstvenih usluga iorganizacijske strukture na uzorku četiri regionalna zavoda za javno zdravstvo i nacionalnog zavoda, koji predstavljaju glavninu javnozdravstvenih usluga Republike Hrvatske. Analiza je provedena na osnovi anketnog upitnika, intervjua te dostupnih službenih podataka za šest zajedničkih organizacijskih jedinica. Utvrđena je neusklađenost pojedinačnih oblika izvještavanja između pojedinih zavoda, neujednačenost organizacijskih rješenja za provedbu pojedinih programa i aktivnosti, s naglaskom na interno evidentiranje, analizu i izvještavanje. Doprinos ovog rada je u kritičkoj analizi i predloženom modelu sustava izvještavanja kao osnove za mjerenje efikasnosti primjenom suvremenih strateških alata, a u svrhu ocjene i izrade programa zdravstvene zaštite, zdravstvenih standarda i promicanja zdravlja ukupnog stanovništva.

Ključne riječi: *javnozdravstvene usluge, sustav izvještavanja, strateško promišljanje, efikasnost.*

„This work has been fully supported by Croatian Science Foundation under the project – A Model for Measuring the Efficiency of Public Health Services (IP-2014-09-8235)"

1. Introduction

Disease prevention, preservation and improvement of health are the fundamental activities of the public health system and health quality determinants at national level. Therefore, quality of data and adequate reporting are crucial for identifying areas in need of improvement, monitoring progress and providing different stakeholder (Smith et. al, 2009) with comparative information about health system performance. Because of the society role that public health systems have and their method of financing it is important to measure their efficiency and effectiveness (Vitezić et al., 2016). Although, data collection, their analysis and reporting are part of public health policy in many countries it is well known that healthcare professionals and policy makers can make only good decisions regarding the quality and availability of the data they use in the decision-making process.Even countries with advanced data systems have difficulty linking practice performance to outcomes due to limitations in data availability and poor capabilities in linking data (Braithwaite et al., 2017).Therefore, a developed reporting system is a prerequisite for measuring achieved results through implementation and integration of strategic thinking of organizational units within the public health system. Only carefully co-oriented national performance measurement and reporting systems can assure avoidance of data duplication, non-transparent information and dysfunctional consequences (Mannion, Davies, 2002). According to that an interoperable information system is required (Wager et al., 2009) to support the integrated reporting system. That recognized also the Ministry of Health of the Republic of Croatia and included informatization and communication

technology upgrade as one of the first priority in achieving of set goals (National Health Care Strategy, 2012-2020).
The public health system in the Republic of Croatia is organized through health and public health institutes at county level and one national institute which is the coordinator of all the regional institutes. Their primary tasks are monitoring, analysis, and evaluation of the health of the population, as well as planning, proposing, and implementing measures for the preservation and enhancement of the population's health. Namely, within a complex system such as the public health institutes of the Republic of Croatia, only accurate, timely and standardized data and a strategically oriented organizational culture can ensure quality and consistent monitoring, as well as analysis of current state of affairs in order to develop programs of health care measures, health standards and promoting health and welfare in general. Even though the 'Age of Big Data' gives new capabilities and organizational, managerial and strategic benefits (Wang et al., 2018) the Croatian health care still needs to invest a lot of effort to create a unique informatized statistic and indicator system supported by a standardized reporting system intended to measure the efficiency and effectiveness of their services.

Džakula et al. (2014) highlight the need of public and professional engagement in so far health care reforms lacked with strategic foundations and projections. They alsopoint out that 'reforms have often been riddled with scandals and controversies, undermining their efficiency' (Džakula et al., 2014, 147). Only a comprehensive and unified system that ensures information base for monitoring the efficiency of results and the effectiveness of set goals enables the use of contemporary methods and strategic management tools, like the Balanced Scorecard (BSC), that are more and more used as a strategic tool in public sector including health (Yee-Ching, 2004, Greatbanks,Tapp, 2007, Edward et al., 2011).

Therefore, this paper analysis the current reporting and efficiency measurement system of four Croatian regional institutes in association with the national institute, and suggests improvements that will prevent the duplication effort and that will enable the implementation and integration of strategic thinking of organizational units within the public health system. Additionally, for the purpose of evaluating and developing health care programs, health standards and promoting overall population health, the paper provides a proposal of key indicators for efficiency and effectiveness measurement of public health services in Croatia, which as such do not yet exist and which are considered as a part of application of modern strategic tools.

2. Public health and importance of measuring efficiency and effectiveness

As a commonly accepted definition of public health is considered to be one set by Sir Donald Acheson (1988), which is based on earlier definition by Winslow (1920), that describe public health as the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society.Fundamental public health functions include: 1)surveillance of population health and well- being, 2)monitoring and response to health hazards and emergencies, 3)health protection, including environmental, occupational, food safety, and others, 4)health promotion, including action to address social determinants and health inequity, 5)disease prevention, including early detection of illness. Also, public health functions are:6)ensuring governance for health and well- being, 7)ensuring a sufficient and competent public health workforce, 8)ensuring sustainable organizational structures and financing, 9)advocacy, communication and social mobilization for health, 10)advancing public health research to inform policy and practice, and these enable the fulfillment of public health activities (WHO, 2012).

It is important to note that public health is a preventive aspect of health care, not curative, and that it covers health care at the community level, not the individual..As such, it is the determinant of a developed and effective health system of a particular country, and the development of the society is linked to the development of the public health system, i.e. the readiness of the state to provide its programs and tasks in an efficient and effective way with the purpose of protecting and improving health.Therefore, the economic evaluation of certain measures and activities of the public health system is of crucial importance, andpursuit of efficiency is one of the central preoccupations of health policymakers and managers. The notion of health sector efficiency and effectiveness are some of the most discussed dimensions of health care performance, which seek to capture the extent to which the inputs expressed financially or non-financially are used to secure valued health system goals. Efficiency becomes particularly important in the light of financial pressures and concerns over long-term financial sustainability experienced in many health systems, as decision-makers seek to ensure that available health care resources are used efficiently for proclaimed health benefits.

Also, existing literature emphasizes that measuring the efficiency of health systems is a challenging undertaking.Problems are both conceptual and technical. The current literature as the main measurement problems in the public sector generally highlights (Kattel et al., 2013): 1)the diverse nature of public sector services, the wide range of users and the difficulty in defining the goals. The set objectives and expected public sector effects do not follow the single criterion of profit making. 2)many methods for assessing economic impact are almost impossible to apply to the public sector because they require that the effects have to be monetized (e.g. intangible effects, such as improved health, quality of life, etc.).The measurement is mostly static, while the processes are dynamic. Time lags are present,linked to the effects of many policies and the performance of the public sector.Besides these difficulties, operationalization of performance measurement also requires access to appropriate data and analytic resources. Database systems must be created specifically for performance measurement, so they may be comparable to other data systems as well.

As a starting point, i.e. the precondition of measuring efficiency and effectiveness, it is certainly the establishment of an adequate reporting system.Bearing in mind the above-mentioned difficulties in measuring the results within the public sector and also public health services, it is not an easy task. The goal of health information systems is to allow all professional and lay users within and outside the health sector to use, interpret, and share information and to transform it into knowledge (Gissler et al., 2006). According to Ibrahimov et al. (2010), Gerkens and Merkur (2010) and Bryndováet al. (2009), health information systems in Europe show great intercountry differences, and that is mainly due to the different historical and cultural contexts.The provision of information on public health programs and services provides benefits for everyone interested in the functioning and progress of the public health system, from the general public to hospital managers and governmental policymakers. Reporting about public health services is a very important tool which help decision-makers decide whether certain public health programs and activities meet their goals and formulate an adequate health policy.

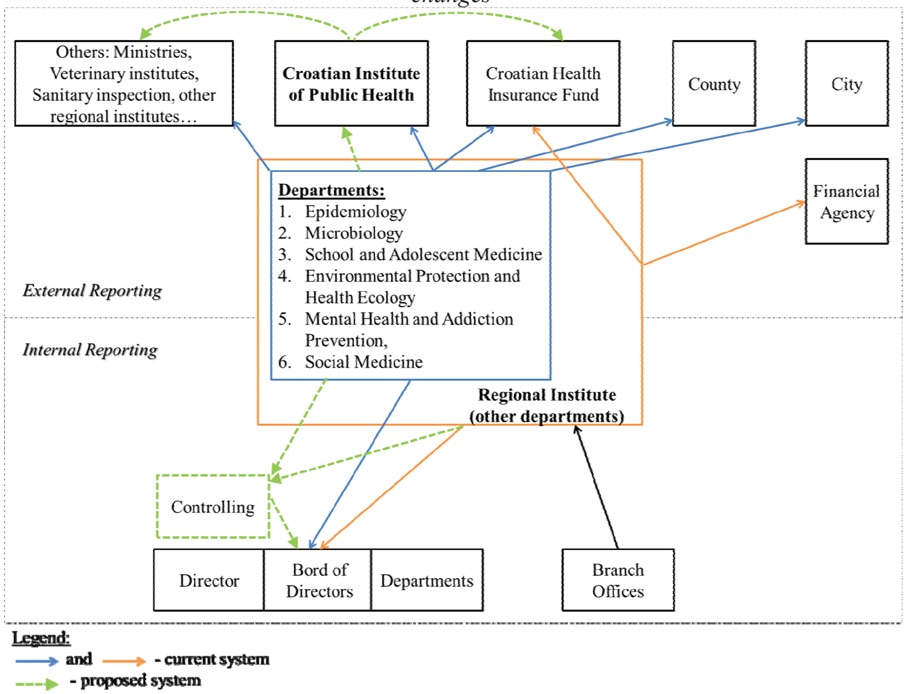
3. Methodology and results

Even though the public health of Croatia is organized through 20 country-level and one national-level institutes, the basis of this study where the four regional public health institutes (Andrija Štampar Teaching Institute of Public Health, Teaching Institute of Public Health of Primorsko-Goranska County, Teaching Institute of Public Health of Split-Dalmatia County and Institute of Public Health of Osijek-Baranja County) and the one national institute (Croatian Institute of Public Health), which together represent the majority of public health services in Croatia.

The starting point of the research was a survey that was sent to all 21 institutes of public health in Croatia. The results discovered many different financial reports and statistics these institutes collect and send to the authorities and other upper-level institutes, but also the lack of efficiency and effectiveness measures. Also, there is difference in the characteristics of organizational structure manifested through different names and numbers of divisions, departments,units, etc. The second point of research were available online official data for six common organizational units of the empirical sample (Epidemiology, Microbiology, School and Adolescent Medicine, Environmental Protection and Health Ecology, Mental Health and Addiction Prevention, Social Medicine).A detail analysis of available publications, especially statistical, showed lack of individual regional reports, their promptness, transparency, and inconsistency and disparity in comparison with national publications. This can be attributed to numerous facts caused by absence of systematic and strategic management, but in general tree factors can be highlighted: lack of control, information integrity and transparency (Pristaš et al., 2017). Additionally, what is important to emphasize, and what is at the same time one of the main characteristics of Croatian Patient Registries (Pestić et al., 2017) is the nonexistence of key information as a basis for measuring the efficiency of public health services and making decisions about overall population health. It seems that large amount of data is routinely collected and in part reported but the question that arises is: Is this the right way and concept of collecting data, and what is their use inside the health reporting, evaluating and developing system?

Therefore, interviews were conducted with the deputy directors, head of controlling or quality department of four regional, and the head of medical informatics of the national institute. The first problem that occurred in all regional and the national institute is nonexistence of organizational mapped flow report processes as part of internal control systems. Only one regional institute is in the process of drafting the mapped. According to Pristaš et al. (2017) the most influencing problem on overall health reporting system is the regulatory frame of Croatian health. Although according to the regulations the Croatian Institute of Public Health has the public authority to plan, propose and execute activities of health information development, in practice that power is completely neglected together with the jurisdictions of each individual health institution. In accordance with that, country-level institutes have obligatory reporting to several higher-level institutes. Beside that they have a wide range of internal reports between department and connected branch offices, and withal, the reports are created through different technological basis. Consequently, this way of reporting leads to duplication of information and work, data of different quality (scope, content and logic), and in the end the emergence of different levels of reliability of reports and analysis (VrančićMikić et al., 2013). And importantly, beside all of that is the lack of information base for monitoring the efficiency of results and the effectiveness of set goals. Upon that, caused by the same problem of variety of data, the concept of secondary data use on activities such as health services research has not yet been incorporated in Croatian legislation and will take multi institutional efforts (Fišter et al, 2017). Hence, an integrated reporting health care system would enable internal efficiency and effectiveness measurement, but also the contribution of researchers through application of statistical methods (Asandului et al., 2014,Vitezić et al., 2016,Vitezić et al., 2017).

***Figure 1** Current reporting system of four regional public health institutes of Croatia and proposed changes*



Source: Authors

The reporting system of the four regional institutes includes a wide range of financial and nonfinancial data exchange through numerous internal and external reports that are often duplicated with regard to different users. For example, the Epidemiology department sends working reports monthly to the Croatian Institute of Public Health and Croatian Health Insurance Fund. The Ecology department reports on different basis (daily, monthly, yearly…) to the Croatian Institute of Public Health, to the Ministry of Agriculture, sanitary inspection, other institutes etc.We consider it appropriate and necessary for all data to be in one central database.Therefore, we propose the CroatianInstitute of Public Health as the central data collector in today's and future-facing digitalisation in the era of Big Data. Only through a central collecting data reporting system non data duplication and especially, validity and transparency of data can be assured. On the other, in internal reporting the departments mainly report themselves to other departments or higher-levels. To improve the transparency we suggest Controllingdepartment as the internal data collector and proactive analyst. Besides that, we emphasis as important for every institute to create own organizational mapped flow report processes as a perquisite for implementation of efficiency and effectiveness measurements.

4. The starting point for measuring the efficiency of public health services in Croatia

On the basis of previously elaborated cognitions, it can be concluded that performance measurement, i.e. the efficiency and effectiveness of particular programs and activities, and generally public health services, at the level of the surveyed institutions, as the backbone of the public health system in Croatia, has not been applied at an adequate level. In order to enable a systematic measurement of the efficiency and quality of the services provided, it is necessary to provide a responsive, purposeful and efficient external reporting system and, above all, an adequate internal reporting system.

Over the past thirty years there has been a dramatic growth in health system performance measurement and reporting. Nevertheless, health systems are still in the beginning of performance measurement and much more needs to be done for improving its effectiveness (Smith et al., 2009). Population health has traditionally been captured in broad hard outcomes, such as standardized mortality rates, life expectancy and years of life lost. However, outcome-oriented approach to managing performance may not always be appropriate. Most notably, it is often difficult to assess the extent to which variations in health outcome can be attributed to the health system. Mortality often occurs long after the care has been given.

Process measures based on scientific evidence which links them to effective outcomes (sometimes referred to as intermediate outcome measures) are generally recognized as the most useful indicators (Donabedian, 1966, Lester, Roland, 2009). Measures of the processes of care can be influenced more directly by the organizations whilst measures of health outcome exhibit a great deal of variation beyond health system control. Examples of useful process measures include appropriate prescribing, regular blood pressure monitoring for hypertension or glucose monitoring for diabetics (Naylor et al., 2002). Also, to meet the demands of many stakeholders in the health system, it is necessary to think about measuring performance as a multidimensional system. This approach is a reflection of strategic thinking and inclusion of all interested stakeholders. Balanced scorecard(BSC) is a useful tool for integration the multidimensional nature of health-services performance. It also allows managers of public health unit to benchmark performance to set mission, vision and strategy. BSC application is very broad in the health care system all over the world (Lovaglio, Vittadini, 2012,Yilmaz, Erdem, 2015, Vitezić et al., 2017).

For example, The Quality and Outcomes Framework is a pay-for-performance scheme (2008) in the United Kingdom and itconsists of approximately 140 measures based on evidence or professional consensus. The majority (65%) of indicators are focused on clinical areas, and the use of a balanced scorecard approach is reflected in a range of clinical, organizational and patient focused elements in the framework (Lester, Roland, 2009).

Campbell et al.(2002) conclude that ideal qualities of a performance measure are: acceptability: acceptable to both those being assessed and those undertaking the assessment; feasibility: valid and reliable consistent data available and collectable; reliability: minimal measurement error, reproducible findings when administered by different raters (inter-rater reliability); sensitivity to change: has capacity to detect changes in quality of care; predictive value: has capacity to predict quality of care outcomes.
Examples of indicators at the level of a particular institute of public health should be focused on their main activities combined into six joint organizational units. Taking into account the above-mentioned assumptions in the creation of efficiency indicators, the calculation of such indicators within a particular institute should certainly be the practice of the planning and analysis department, whose purpose is to provide a relevant information base for making management decisions about improvement measures within the organizational system. Based on the conducted analysis we propose key indicators for efficiency and effectiveness measurement of public health services in Croatia, at the level of public health institutes.

***Table 1** Proposal of key indicators for efficiency and effectiveness measurement*

Efficiency		Effectiveness
Financial indicators	**Non-financial indicators**	**Outcomes**
$\frac{\text{Total costs}}{\text{Plan or previouse year}}$	$\frac{\text{Number of service by type}}{\text{Plan or previouse year}}$	• Increase in total quality of public health services. • Increasing in the quality of internal processes. • Increase of innovative solutions. • Improvements of prevention effectiveness. • Efficiently use of external sources of financing.
	$\frac{\text{Number of realized services}}{\text{Effective working hours}}$	
$\frac{\text{Total costs}}{\text{Number of employees}}$	$\frac{\text{Number of published proffesional and scientific papers}}{\text{Number of employees}}$	
$\frac{\text{Market realized revenue}}{\text{Total revenue}}$	$\frac{\text{Types of diseases}}{\text{Previouse year}}$	
$\frac{\text{Revenue from budget}}{\text{Total revenue}}$	$\frac{\text{Number and amount of external suported projects}}{\text{Number and amount of internal supported projects}}$	

Source: Authors

Rationality represents one of the most important principles in the sector of public institutions. Therefore, financial indicators are needed to signify its achieved level. Non-financial indicators that are statistically tracked will indicate the efficiency through a larger number of performed services, published papers, external supports of projects and fewer diseases. All that together should lead to greater effectiveness measured through quality improvement of provided services, and thus better prevention. Further, these indicators serve as an important input to health care policy makers at the national level. In this respect, integration of efficiency and effectiveness indicators into the external reporting system is expected.

5. Conclusion

Public health as the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society is the determinant of a developed and effective health system. Performance measurement becomes particularly important in the light of financial pressures and concerns over long-term financial sustainability experienced in many health systems, as decision-makers seek to ensure that available health care resources are used efficiently for proclaimed health benefits. As a starting point, i.e. the precondition of measuring efficiency and effectiveness, it is certainly the establishment of an adequate reporting system. Only carefully co-oriented national performance measurement and reporting systems can assure avoidance of data duplication, non-transparent information and dysfunctional consequences.

The public health system in the Republic of Croatia is organized through health and public health institutes at county level and one national institute which is the coordinator of all the regional institutes. The results of the conducted analysis through survey, interviews and available statistical data, discovered many different financial reports and statistics these institutes collect and send to the authorities and other upper-level institutes, but also the lack of efficiency and effectiveness measures. According to the results obtained, changes to current reporting system of four regional public health institutes of Croatia are proposed. As far as external reporting is concerned, the Croatian Institute of Public Health was suggested as the central data collector in today's and future-facing digitalisation in the era of Big Data to avoid aforementioned inconsistencies. In the area of internal reporting, to improve the transparency and to meet the requirements for measuring efficiency and effectiveness on the level of particular institute, we suggest Controlling department as the internal data collector and proactive analyst. Also, key indicators for measuring efficiency and efficiency are proposed, through financial, non-financial and outcome levels.

REFERENCES

Acheson, D. (1988): ***Public Health in England, Report of the Committee of Inquiry into the Future Development of the Public Health Function***, HMSO, London.

Asandului, L., Roman, M. and Fatulescu, P. (2014): ***The efficiency of healthcare systems in Europe: A Data Envelopment Analysis Approach,*** in: Procedia Economics and Finance, 7th International Conference on Applied Statistics (ICAS), Bucharest, November 15, 2013, Vol. 10, pp. 261-268.

Braithwaite, J., Hibbert, P., Blakely, B., Plumb, J., Hannaford, N., Cameron Long, J. and Marks, D. (2017): ***Health system frameworks and performance indicators in eight countries: A comparative international analysis,*** SAGE Open Medicine, Vol. 5, pp. 1-10.

Bryndova, L., Pavlokova, K., Rokosova, M., Gaskins, M., Ginneken, E. (2009): ***Czech Republic: health system review***, Health Systems inTransition, Vol. 11, No. 1, pp. 1–122.

Campbell, S.M., Braspenning, J., Hutchinson, A., Marshall, M.N. (2002): ***Research methods used in developing and applying quality indicators in primary care***, Quality and Safety in Health Care, Vol. 11, No. 4, pp. 358–364.

Donabedian, A (1966): ***Evaluating the quality of medical care***, Milbank Memorial Fund Quarterly, Vol. 44, No. 3, pp. 166–206.

Džakula, A., Sagan, A., Pavić, N. and Lončarek, K. (2014): ***Health Systems in Transition,*** Croatia Health System Review, Vol. 16, No. 3, pp. 1-162

Edward, A., Kumar, B., Kakar, F., Shah Salehi, A., Burnham, G. and Peters, D.H. (2011): ***Configuring Balanced Scorecards for Measuring Health System Performance: Evidence from 5 Years' Evaluation in Afghanistan,*** PLoS Med, Vol. 8, No. 7, pp. 1-9.

Fišter, K., Pleše, B., Pristaš, I., Kurth, T. and Kujundžić Tiljak, M. (2017): ***Setting up research infrastructure for secondary use of routinely collected health care data in Croatia,*** Croatian Medical Journal, Vol. 58, No. 5, pp. 327-329**.**

Gerkens, S., Merkur, S. (2010): ***Belgium: health system review***, Health Systems inTransition, Vol. 12, No. 5, pp. 1–266.

Gissler, M., Dumitrescu, A., Addor, V. (2006): ***Improving the Performance of National Health Information Systems: The 2002–2003 reform in Finland from an international perspective***. Copenhagen, WHO Regional Office for Europe.

Greatbanks, R. and Tapp, D. (2007): ***The impact of balanced scorecards in a public sector environment: Empirical evidence from Dunedin City Council, New Zealand,*** International Journal of Operations & Production Management, Vol. 27, No. 8, pp. 846-873.

Ibrahimov, F., Ibrahimova, A., Kehler, J., Richardson, E. (2010): ***Azerbaijan: health system review***, Health Systems in Transition, Vol. 12, No. 3, pp. 1–117.

Kattel, R., Cepilovs, A., Drechsler, W., Kalvet, T., Lember, V., Tõnurist, P. (2013): ***Can we measure public sector innovation? A literature review***, Ragnar Nurkse School of Innovation and Governance, Tallinn, Estonia.

Lester, H., Roland, M. (2009): ***Performance measurement in primary care***, in Smith P.C. et al., ed.: Performance measurement for health system improvement; experiences, challenges and prospects, Cambridge University Press, Cambridge.

Lovaglio, P.G., Vittadini, G. (2012): ***The balanced scorecard in health care: a multilevel latent variable approach***, Journal of Modelling in Management, Vol. 7, No.1, pp. 38-58.

Mannion, R. and Davise, H.T.O. (2002): ***Reporting health care performance: learning from the past, prospects for the future,*** Journal of Evaluation in Clinical Practice, No. 8, Vol. 2, pp. 215-228.

National Health Care Strategy, 2012-2020 (2012), Government of The Republic of Croatia, Ministry of Health of The Republic of Croatia,https://zdravlje.gov.hr/UserDocsImages/dokumenti/Programi,%20projekti%20i%20strategije/Nacionalna%20strategija%20zdravstva%20-%20za%20web.pdf, (accessed 10 February 2018).

Naylor, C., Iron, K., Handa, K. (2002): ***Measuring health system performance: problems and opportunities in the era of assessment and accountability***, in Smith, P., ed.: Measuring up: improving health systems performance in OECD countries, Organisation for Economic Co-operation and Development, Paris.

Pristaš, I., Ivanković, D., Valentić, M., Golubović, S., Pleše, B., Brkić, M., Barto, B. and Poljičanin, T. (2017): ***Kultura zdravstvenih informacija u Hrvatskoj,*** Socijalna ekologija: časopis za ekološku misao i sociologijska istraživanja okoline, Vol. 26, No. 1-2, pp. 13-21.

Pestić, O., Ivančević, M. and Ibraghimova, I. (2017): ***Registri pacijenata i daljnji razvoj informacijskih sustava u hrvatskom zdravstvu,*** in: Medicinska Inforamtika 2017, Zbornik radova, 13. simpoziji Hrvatskog društva za medicinsku informatiku, Čakovec, studeni 9-11, 2017, pp. 21-22.

Smith, C.P, Mossialos, E., Papanicolas, I. and Leatherman, S. (2009): ***Principles of performance measurement,*** in Smith, C.P, Mossialos, E., Papanicolas, I., Leatherman, S., ed.: Performance Measurement for Health System Improvement: Experiences, Challenges and Prospect, Cambridge University Press, Cambridge, pp. 2-24.

Vitezić, N., Setnikar Canker, S. and Janković S. (2017): ***Innovative Approach to Efficiency Measurement Using the DEABSC Method in the Public Health Service of Croatia,*** in: Innovation Governance in the Public Sector, Presented Papers from the 25th NISPAcee Annual Conference, Kazan, Republic of Tatarstan, Russian Federation, May 18 - 20, 2017, closed online proceeding.

Vitezić, N., Šegota, A. and Setnikar Cankar, S. (2016): ***Measuring the Efficiency of Public Health Services by DEA,*** International Public Administration Review, Vol. 14, No. 4, pp. 27.

Vrančić Mikić, A., Prenđa Trupec, T., Poljičanin, T., Stevanović, R., Pajić, V. and Pristaš, I. (2013): ***Integralni registry u zdravstvu Republike Hrvatske,*** Hrvatski časopis za javno zdravstvo, Vol. 9, No. 36, pp. 199-204.

Wager, K.A., Wickham Lee, F. and Glaser, J.P., foreword by Burns, L.R. (2009): ***Health Care Information Systems: A Practical Approach for Health Care Management,*** 2nd Edition, Jossey-Bass, A Wiley Imprint, San Francisco.

Wang, Y., Kung, L., Yu Chung Wang, W. and Cegielski, C.G. (2018): ***An integrated big data analytics-enabled transformation model: Application to health care,*** Information & Management, Vol. 55, pp. 64-79..

Winslow, C. E. A. (1920): ***The untilledfields of public health***, Science, Vol. 51, No.1306, pp. 23–33.

World Health Organization (WHO) (2012): ***European Action Plan for StrengtheningPublic Health Capacities and Services***, WHO Regional Office for Europe, Copenhagen.

Yee-Ching, L. Chan (2004): ***Performance measurement and adoption of balanced scorecards: A survey of municipal governments in the USA and Canada***, International Journal of Public Sector Management, Vol. 17, No. 3, pp. 204 – 221.

Yilmaz, N., Erdem, R. (2015): ***Balanced scorecards applications in health care***, Journal of international health science and management, Vol. 1, No. 1, pp. 53-59.

Marija Šain, Ph. D., Asst. Prof.
Josip Juraj Strossmayer University of Osijek
Department of Cultural studies
Trg Sv. Trojstva 3, HR-31 000, Osijek
Phone: ++ 385 31 224 239; Fax: ++385 31 224 207
E-mail address: mmihalje1@kulturologija.unios.hr

Ivana Bestvina Bukvić, Ph. D., Asst. Prof.
Josip Juraj Strossmayer University of Osijek
Department of Cultural studies
Trg Sv. Trojstva 3, HR-31 000, Osijek
Phone: ++ 385 31 224 269; Fax: ++385 31 224 207
E-mail address: ibbukvic@kulturologija.unios.hr

Maja Haršanji, PhD student/mag.oec.
Josip Juraj Strossmayer University of Osijek
Department of Cultural studies
Trg Sv. Trojstva 3, HR-31 000, Osijek
Phone: ++ 385 31 224 239; Fax: ++385 31 224 207
E-mail address: majam@kulturologija.unios.hr

ECONOMIC ANALYSIS OF BROWNFIELD INVESTMENTS IN CULTURAL AND CREATIVEINDUSTRIES

EKONOMSKA ANALIZA BROWNFIELD INVESTICIJA U KULTURNIM I KREATIVNIM INDUSTRIJAMA

ABSTRACT

Economic analysis as an integral part of cost-benefit analysis (CBA) has an increasing importance in assessing major public investment projects. This, among other, relates to reconstruction and revitalization projects, insufficiently exploited, abandoned or destroyed complexes that once had, often industrial purpose and which are today a potential for development of new economic and social activities (brownfield investments). These projects are precisely those where, due to the high cost of renewal, revitalization and maintenance, with the questionable level of operating revenues, need assessment of socio-economic benefits to prove their feasibility. This analysis is today mandatory when applying for EU funding.

The importance of EU funds in financing public brownfield investments that are often combined with activities in cultural and creative industries (CCI) and tourismis already proven. Since these industries are rapidly developing, employ a large number, primarily young, highly educated people and can be combined with the activities of rising the visiting attractiveness of the location, there are number indicators that can be used to calculate the economic value of the project.

The aim of this paper is to analyse the role and significance of economic analysis as part of the cost-benefit analysis infunding decision-making, especciallyin assessing the justification of financing the major public investment projects. For that reason the paper presents the case-study of a public brownfield investment that was evaluated by using the selected indicators of financial and economic analysis giving the comparison of their results and impact on the decision-making on investments with large socio-economic benefits.

***Key words**: brownfield investments, economic analysis, financing, cultural and creative industries.*

SAŽETAK

Ekonomska analiza kao sastavni dio analize troškova i koristi (CBA) ima sve veću važnost u procjeni javnih investicijskih projekata. Ovo se, između ostalog, odnosi i na projekte obnove i revitalizacije nedovoljno iskorištenih, napuštenih ili uništenih kompleksa koji su nekoć imali svoju, često industrijsku, namjenu, a danas su potencijal za razvoj novih gospodarskih i društvenih aktivnosti (tzv. brownfield investicije). Pritom su ovi projekti upravo oni kod kojih je, uslijed visokih troškova obnove, revitalizacije i održavanja, uz upitnu razinu generiranja operativnih prihoda, potrebno procijeniti i društveno-ekonomske koristi s ciljem provjere opravdanosti njihove provedbe. Ova je analiza danas ujedno i obvezni dio prijave na natječaje za financiranje iz sredstava EU fondova.
Važnost EU fondova već je dokazana u financiranju javnih brownfield investicija koje se često kombiniraju s aktivnostima u kulturnim i kreativnim industrijama (CCI) i turizmu. Budući da se ove industrije ubrzano razvijaju, zapošljavaju veliki broj, prvenstveno mladih, visokoobrazovanih ljudi i mogu se kombinirati s aktivnostima povećanja atraktivnosti turističke lokacije, postoje brojni indikatori koji se mogu koristiti za izračun ekonomske vrijednosti projekta.
Cilj ovog rada je analizirati ulogu i značenje ekonomske analize kao dijela analize troškova i koristi u odlučivanju o financiranju, posebice ocjeni opravdanosti financiranja velikih javnih investicijskih projekata. Iz tog razloga u radu je prikazana studija slučaja javne brownfield investicije koja je evaluirana korištenjem odabranih pokazatelja financijske i ekonomske analize, dajući usporedbu njihovih rezultata i utjecaja na donošenje odluka o investicijama s značajnim društveno-ekonomskim koristima.

***Ključne riječi**: brownfield investicije, ekonomska analiza, financiranje, kulturne i kreativne industrije.*

1. Introduction

The most popular and widespread technique for evaluating a net economic impact of public projects is the cost-benefits analysis(CBA). (Ahlheim, 2002, 692) According to European Union (EU) and in the context of allocation of its resources through European Regional Development Fund (ERDF) and the Cohesion Fund„CBA is an analytical tool to be used to appraise an investment decision in order to assess the welfare change attributable to it and, in so doing, the contribution to EU cohesion policy objectives. The purpose of CBA is to facilitate a more efficient allocation of resources, demonstrating the convenience for society of a particular intervention rather than possible alternatives.“(EC, 2014, 6)Simply put, CBA is the method of seeking the most favorable relationship between the benefit that the project brings and the costs necessary for their realization, (Karić, 2004, 2) i.e. "its aim is to determine whether a project is desirable from the point of view of social welfare, by means of the algebraic sum of the time-discounted economic costs and benefits of the project". (EC, 2013, 19) This kind of evaluation can be of extreme importance in making a decision of public investmentsin reconstruction of cultural or industrial facilities and putting them into the function of cultural and creative industries (CCI), thusthrough realizing their economic potential convertingthem tosignificant contributor in urban regeneration.
„Development strategies have increasingly identified cultural and creative industries as key growth sectors in the process of urban and regional regeneration. Moreover, tourism is seen as their complementary industry in a way that it helps transforming cultural resources (e.g. culture in general) into tourism products." (Petrić, Mikulić, 2009, 5) Therefore, CCI significance in economic development is well-known,(Mihaljević, Stanković 2016; Borić 2016; Rocks, 2017),where the CCI have the potential for city profiling, differentiation and urban development where they have been

proven as a wheel of revitalization even of certain poor, abandoned urban areas. (Jelinčić et al., 2012) The DCMS official definition of CCI is that they are "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property (DCMS, 2001, 4). These industriesare today increasingly recognized as important factor contributing to the development and attractiveness of the cities andhaving an increasing role in urban regeneration as well as in the management of cultural heritage, where they are not disrupting the historical significance and value of space. (Cizler, 2012, 234; Rypkema, Mikic, 2015, 15; Sever,Obad Šćitaroci, 2017, 77)
Some cities have been weakened particularly hard by economic and social transitions which have devastated manufacturing industry, created structural unemployment and demographic problems. "Therefore, the cities need to attract new and growing activities which will provide jobs and assist the physical regeneration of inner city zones."(Law, 2002, 49) According to Smith (2003), the public brownfield investments require multidisciplinary development including the concentrations of different contents (i.e.hotels, catering facilities, shops and recreational facilities, workshops) not creatingan isolated art centers and cultural points that will not fulfill the full potential of economic and social benefits for the local community,increase the total visitor satisfaction and employment. Related to this, the paper analyzes the socio-economic justification of revitalization of brownfield, former industrial facility into a new purpose adapted to the contemporary CCI but also to the needs of the city and the community.

All this make CCI extremely attractive and acceptable for the important role in urban regeneration and heritage management. However, the future purpose of a particular facilityshould be shaped oneconomic grounds, which necessarily implies valuation of investment projections by appropriate economic techniques. Therefore, the aim of this paper is toanalyze the role of economic analysis as part of the cost-benefit analysis for the purpose of strategic decision-making in assessing the feasibility of major public investment projects.

2. Economic analysis

By European commission (EC) the CBA is explicitly required as a basis for decision-making on the co-financing of major projects included in operational programs (OPs) of the European Regional Development Fund (ERDF) and the Cohesion Fund where it should include following standard elements: description of the context (i.e. presentation of the socio-economic, institutional and political context), definition of objectives, identification of the project, technical feasibility and environmental sustainability, financial analysis, economic analysis and risk assessment.(EC, 2014).
In the frame of this paper the role of economic analysis, that has to be carried out together with the financial and risk analysis, is to appraise contribution to society and general welfare of the major projects financed by EU funds.By LoforteRibeiro (2008) financial analysis can be taken into consideration in the process of valuation of the "projects whose benefits and costs are measurable in monetary terms and whose output has an assessable market price" (LoforteRibeiro, 2008, 206) At the other hand, the economic analysis takes the same form, but it values "project from the perspective of the entire country and measures the effects of the project on the economy as a whole" (Loforte Ribeiro, 2008, 206).
The purpose of socio-economic CBA, in case of public brownfield investments that are involving revitalization and change of purpose of existing facilities, is to determine the overall economic viability of the project by calculating the additional benefits generated as a result of the project implementation. Namely, these projects have different indirect economic, social and environmental impacts, and because of the size of the investment they cannot only be evaluated on the basis of the market profitability and purely financial indicators. If that would be the case, the socio-economic benefits would potentially be irretrievably lost.
Following EU methodology, the Financial analysis would include Cash-flows for project costs and revenues, including residual value; Tariff and affordability analysis (where relevant); Sources of

financing; Financial profitability (financial net present value (FNPV) and Financial Rate of Return of the Investment (FRR (C)); Sustainability, where if:

- FNPV>0 The project does not require financial support (with exceptions)
- FNPV<0the project does require financial support and the Economic analysis is to be conducted.

By the EU guidelines, Economic analysis in its calculations includes the fiscal corrections; conversion from market to shadow prices, evaluation of non-market impacts and economic profitability.The main parameters for assessing the socio-economic viability of the investment are the calculation of Economic net present value (ENPV), Economic internal rate of return (ERR) and the ratio between discounted economic benefits and costs (**B/C ratio)**, where if:

- ENPV<The society is better off without the project
- ENPV>The society is better off with the project, in which case the Risk assessment is to be conducted as last of the project appraisal steps (EC, 2014, 18)

The same methodology was used in following chapter presented and analyzed case study of public brownfield investment.

3. Methodology and the limitations of the research

In the frame of this research the authors analyzed the relationship of the financial and the economic analysis in the terms of public investment decision processes. As to the limited public funding, there is a need to objectively consider all information given as result of a financial analysis but at the same time the socio-economic benefits valued by the economic analysis. Only by taking into account all objective costs, potential profit and socio-economic benefits the investor (in analyzed case, the local government and the EU representative bodies) can make a decision whetherto implement or reject the project, where another investment can be selected as result of the presented positive cost-benefit analysisbut in the frame of the budget limitations.

Data collection and analysis. For the purpose of this researchthe authors analyzed the projections of theEU funded investment, whose aim is to restore and revitalizean old industry building located in the Eastern Croatia for the purposes of fostering education, CCI and tourism of the urban centre. The source of information for this study was the feasibility study and cost-benefit analysis provided by the investor.For the purpose of the analysis the methodology given by the Guide to Cost-benefit Analysis of Investment Projects (Economic appraisal tool for Cohesion Policy 2014-2020) was used (EC, 2014), where Financial net present value (FNPV), Financial Rate of Return on Investment (FRR (C)), Economic Net Present Value (ENPV), Economic Rate of Return (ERR), pay-back period, and benefits/cost ratio (B/C ratio) where the basic techniques for project assessment. Values expressed in national currency were converted into euro using the exchange rate of 1 EUR = 7.5 HRK.

Research limitations. There are several methodological limitations thathave to be taken into account. The model of CBA is not taking into consideration the spill-over effects in the case of interdisciplinary, transdisciplinary or transnational projects that are often elements for the projects'higher scoring in the evaluation EU representative bodies. As well, the future, more comprehensive research on this topic should include greater number of financed EU transnational projects, so the accuracy and comprehensiveness inapplying this economic analysis on the larger sample,could be reached.

4. Results and discussion

According to the EC guidelines, for the purpose of economic analysis, the investor conducted the adjustments of cash flows by socio-economic impacts, fiscal corrections, conversion from market to shadow prices, evaluation of non-market impacts and correction for externalities, discounting costs and benefits occurring at different times using Social Discount Rate (SDR) and at the end calculated the project economic performance measured by the following indicators: ENPV, ERR and (B/C ratio).

Conversion factors-the conversion of market to shadow prices and labor costs to shadow wages were based on the share of labor costs on construction and operating costs taking into account structural characteristics of the construction market (as project costs are mainly related to the facility reconstruction), local labor markets and the structure of the employed workers. Consequently, the conversion factors were defined as following: 0.48 for the unskilled labor, 1.0 for qualified labor, maintenance as well as infrastructural and equipping works 0.744, material, water and energy 1.0. (FAV, 2015)

Fiscal corrections - as stipulated by the EC (2014) indirect taxes (and benefits) have to be excluded from costs. Indirect taxes mainly include VAT but also subsidies and transfer payments, but in the case of local self-government units the costs are expressed with VAT. (FAV, 2015)

Socio-economic impacts - Through the feasibility study and cost-benefit analysis, the investor was able to evaluate the project feasibility and socio-economic benefits. The social benefits of the project were defined by two parameters, the number of new employees and the increase of the number of tourists overnight stays over the next 15 years[1] (FAV, 2015):

- As the project is assuming the employment of the 62 employees in the first year and up to 164 new employees by the end of the 15th year, and as by the macroeconomic data published by the Central Bureau of Statistics, the gross value added (BDV) per employee in region of the project in 2013 was EUR 19.67 in the tourism sector, the generated social benefits after the 15-year period would amount 3,226 thous. EUR.
- It was projected that the number of overnight stays, following five years after ending the reconstruction part of the activities, will rise by 10% per year where the average daily consumption of tourists was estimated at the level of approx. 51 EUR, afterwards it is increasing by higher percentage as a result of project activities in the area of CCI. Accordingly, the estimated social benefits from the increase of tourist nights after the 15-year period would amount approx17,924 thous. EUR.

Table 1 gives the overview of the structure and total external benefits planned values in the first five years after the ending of reconstruction and equipping works. (FAV, 2015)

Table 1 *projection of external benefits during the first five years after putting the facility into the function*

Year	External benefits from employment	Increase of overnight stays	External benefits from tourism	Total external benefits
	Increase in number		EUR ('000)	
1-3	0	0	0	0
4	1,220	10,772	546	13,241
5	138	11,849	600	5,536
6	138	13,034	660	5,986
7	177	14,338	726	6,776
8	177	15,772	799	7,321

Source: adapted according to feasibility study and cost-benefit analysis (FAV, 2015, p. 131)

[1]Other indirect effects within the analysis were not elaborated as a result of lacking indicators to quantify other social benefits. For example, the investor believes that through this project the development of SMEs will be fostered as the new CCI Center will establish a network of cultural-tourist institutions and co-working that will continually work on creating new cultural and tourist facilities that will offer a new business oportunities for the SMEs. (FAV, 2015)

The comparison of the financial and economic analysis of the public brownfield investment, taking into account all objective and predictable financial and economic costs and benefits, is presented with the purpose to determine the socio-economic benefits of the project, and vice versa, the value of the possible loss of the investments socio-economic effects if the project would not be performed.
This kind of major public projects are not always revenue-generating projects which are by definition of EU "... investment operations in which discounted revenues are higher than discounted operating costs". (EC, 2014, 11) but can have a direct impact on increasing employment and the development of new cultural, social and economic activities. For this reason, including only financial analysis i.e. incomplete overview of the characteristics, positive effects and scope of the project would probably result with the rejecting a project that has multiple economic benefits for the society as a whole. In calculating the FNPV, which is the sum of discounted expected netcash-flows for the time period of the investment thefinancial discount ratesof 3%, 4%, 5% and 6% were applied. This isin accordance with EU recommendations, which is suggesting benchmark at the level of 4% with possibility of corrections "on the grounds of international macroeconomic trends and conjunctures". (EC, 2014, 32)

Table 2 *Financial investment indicators with and without EU support*

EUR ('000)

	FRR without EU support				**FRR with EU support**			
Financial Discount Rate	3%	4%	5%	6%	3%	4%	5%	6%
Financial Net Present Value of the Investment (FNPV)	-8.022	-7.784	-7.556	-7.337	-1.335	-1.296	-1.258	-1.222
Financial Internal Rate of Return of the Investment (FIRR)	n.a. *				n.a.*			

**the financial rate of return could not be calculated as projects negative cash-flow*

Source: author's calculations according to projection of project-cash flows and expected dynamics of the EU support financing (FAV, 2015), p. 124-125

The table 2 shows the results of financial analysis that is taking into consideration only direct cash-flows from the project, without valuating the indirect socio-economic project results that are of importance for public investments. Based only on the presented results of financial analysis (Table 2) the project would be rejected, as profitability indicators are highly negative.
The economic analysis indicators (economic net present value, economic internal rate of return, benefit and cost ratio) are presented by the Table 3.Feasibility study and cost-benefit analysis, according to EU recommendations, uses social discount rates of 4.5%, 5.5% and 6.5%.EU is suggesting benchmark at 5% for major projects in Cohesion countries and 3% for other Member States, with possibility of correction. (EC, 2014, 44). In this paper, discounted cash-flows were discounted by social discount rate of 3%, 4%, 5% and 6% for the purpose of comparison with the results of financial analysis.

As shown earlier, the social benefit of the project is defined by two parameters, the number of new employees and the increase of the number of tourist overnight stays over the next 15 years, not calculating other benefits that will occur as a result of this investments (i.e. spillover effect, the development of the entrepreneurship as of result of the activities planned in the frame of this project, the attractiveness of the city for development new projects in CCI etc.). The reason for that is that those information are hard to estimate and will depend on the success of conducted activities and the socio-economic environment during the project lifetime. As well, there is a question of assessment of the costs and benefits whose market in the time of the project proposal preparation, still do not exist.

Table 3 *Economic investment indicators with and without EU support*

EUR ('000)

	ERR without EU support				**ERR with EU support**			
Socio-economic Discount Rate	3%	4%	5%	6%	3%	4%	5%	6%
Economic Net Present Value of the Investment (ENPV)	10,255	8,828	7,585	6,502	14,236	12,690	11,334	10,142
Economic Internal Rate of Return of the Investment (EIRR)	20.33%	20.33%	20.33%	20.33%	n.a.	n.a.	n.a.	n.a.
B/C ratio	3.42				16.63			

**the financial rate of return could not be calculatedas too high value that is result of EU support (83.31% of the investment)*

Source: author's calculations according to projection of project-cash flows and expected dynamics of the EU support financing (FAV, 2015), p. 124-125

In the basic scenario without co-financing from EU funds, the investment is economically justified as to the two parameters of social benefits (new employment and tourism effects – the increase of overnight stays)that are making a huge contribution to the project value. With a discount rate of 5%, ENPV on investment is7.585thous. EUR, with ERR of 20.33%, BCR ratio3.42, with pay-back period in fourth year of the project.
On the other hand, if calculating EU grant, with a discount rate of 5%,the ENPV is 11,334thous. EUR, ERR cannot be calculated as of too high values, where the pay-back period is in fourth year of the project.

It is evident that without the knowledge of the model and specificities of the project the project assessment analysis wouldn't give the results which were the basis for the funding approval. Leaning only on the financial analysis information would cause the decline of the project and loss of valuable socio-economic benefit of this project. Somewhat similar to qualitative analysis in the evaluation of investment projects in profit sector, which has to be combined with the methods of risk analysis and financial analysis (Bestvina Bukvic, 2013) the economic analysis individually, as well, is not providing sufficient information for the final decision on acceptance or withdrawal from the project, but is significantly improving the overall evaluation of the public investment projects, taking into consideration, as much as possible at the time of planning, its predictable socio-economic benefits.

5. Conclusion

Public brownfield investmentsthat are including the activities of the CCI can be considered as a potential resourcefor the economic growthand perceived as a tool for development and market differentiation of particular urban centers and regions. As a result of European Commission recommendations and guidelines, the CBA is widely accepted as a model of evaluating major public investment proposals, as it was in presented case where the investor conducted cost-benefit analysis including the economic analysis as its integral part. But, withouthaving the knowledge and experience in the preparation of public investment project feasibility study, cost-benefit analysis and proposals for EU funding in its project team, the investor wouldn't be able to prepare quality proposal and conduct the investment. Here, the emphasis especially lies on conducting the economic analysis, as the methodology of financial analysis for assessment the major public investments israther inadequate. The reason is that the purpose of the state, local administration, their institutions and projects existing is not primary to generate profit, but to provide infrastructure, services, products, facilities with the aim of improving the life conditions of its citizens. Thesesocio-economic benefits that public investments are givinghave to be taken into consideration even if they are not immediately monetisable.

The presented case study shows the results of economic analysis of the investment in revitalization of former industrial facility that will conducting the planned activities provide numerous opportunities and benefits for citizens and entrepreneurs. By evaluating such investment only by the results of financial analysis without conductingeconomic analysis it would be hard to justify financing this and some of othermajor public investments, as their financial profitability is rarelyprofitable from the financial standalone point of view.
Of course, economic analysis is not solving all the issues regarding the presentation of all indirect costs and benefits of major public investments. For example, it's not including numerous hidden benefits that will occur as a result of conducting the public investments activities (i.e. spillover effects of interdisciplinary and transnational projects, the development of entrepreneurship as of result of the educational and supporting activities planned in the frame of the project, the rise of city attractiveness for development new projects etc.). The reason is that those investment results (benefits) are hard to estimate as theyare highly dependent on the success of conducted activities and the changes in socio-economic environment during the project lifetime.Nevertheless, it can be concluded that the analysis of socio-economic impacts can be considered as a useful tool for assessing planning policies and investments in major public investments.
As the aim of this paper was to give the insight of the economic analysis specificities and open issues, further research should include greater number of public investment proposals where the quality of the comprehensiveness of conducted economic analysis should be evaluated, and therefore, the capacity for preparation of proposals for EU calls for funding the major public urban regeneration projectsevaluatedon the state level.

REFERENCES

Ahlheim, M. (2002):***Mjerenje troškova i koristi obnove i razvoja devastiranih područja,*** Financijska teorija i praksa, Vol. 26, No. (3),pp. 691-711.

BestvinaBukvić, I. (2013): ***Istraživanje primjene analize specifičnih rizika u projektnom financiranju***, Ekonomski vjesnik, Vol. 26, No. 2, pp. 481-495.

Borić, M. (2016): ***Utjecaj kreativnih industrija na gospodarski razvoj s posebnim naglaskom na zaposlenost, izvoz i bruto dodanu vrijednost***, in: Scientific Conference: Globalizacija i regionalni identitet: Sociokulturno nasljeđe i gospodarski razvoj, Faculty of Agriculture in Osijek, J. J.Strossmayer University of Osijek, Department of Cultural studies, Faculty of Economics in Osijek, September 16-17, 2016, pp.120-140.

Čimin, R. (2015): ***Revitalizacija koprivničke renesansne tvrđave: problemi, mogućnost i smjernice*;** Zavod za znanstveni rad HAZU Varaždin, Vol. 26, pp. 115 -132.

Cizler, J. (2012): ***Urban regeneration effects on industrial heritage and local community–Case study: Leeds, UK***, Sociologija I proctor, Vol. 50, No. 2, pp. 223-236.

DCMS - Department for Culture, Media & Sport, (2001): ***Creative Industries Mapping Documents 2001***, Government UK, London, https://www.gov.uk/government/publications/creative-industries-mapping-documents-2001 (accessed 20 March 2018)

EC - European Commission (2015), ***Guide to Cost-Benefit Analysis of Investment Projects Economic appraisal tool for Cohesion Policy 2014-2020***, European Union, Brussels http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf (accessed 25 March 2018)

EC - European Commission (2013), ***Evalsed Sourcebook: Method and Techniques***, European Union, Brussels,http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf (accessed 25 March 2018)

FAV - Frank Accelerator Ventures, (2015): ***Feasibility study and cost-benefit analysis***, Osijek

Karić, M.; Ćejvanović, F. (2012): ***Analiza troškovi – koristi za odlučivanje o poticanju investiranja u nasade šljiva,*** Poljoprivreda, Vol.10, No. 2, pp. 46-52.

Law, C. M. (2002):***Urban Tourism - The Visitor Economy and the Growth of Large Cities,*** Continuum, London and New York

Loforte Ribeiro, F. (2008):***Urban regeneration economics: The case of Lisbon's old downtown***, International Journal of Strategic Property Management, Vol.12, No. 3, p.p. 203-213.

Mihaljević, M.; Stanković, B. (2016): ***Gospodarske koristi od kulturnih aktivnosti***, in: Scientific Conference: Globalizacija i regionalni identitet: Sociokulturno nasljeđe i gospodarski razvoj, Faculty of Agriculture in Osijek, J. J. Strossmayer University of Osijek, Department of Cultural studies, Faculty of Economics in Osijek, September 16-17, 2016, pp. 104-119.

Petrić, L.;Mikulić, D. (2009):***The Role of Cultural Tourismin the Process of Urban Regeneration***, Actaturistica nova, Vol. 3, No. 1, pp. 5-26.

Rocks,C. (2017): ***London's creative industries - 2017 update, 2017,Greater London Authority***, https://www.london.gov.uk/sites/default/files/working_paper_89-creative-industries-2017.pdf, (accessed 21 March 2018)

Rypkema, D., Mikić, H. (2015): ***Kulturno nasleđe & kreativne industrije, vodič za održivo upravljenje kuturnim dobrima***, Fondacija Grupa za kreativnu ekonomiju, Beograd, https://issuu.com/kreativnaekonomija/docs/kulturno_nasledje_i_kreativne_indus (accessed 21 March 2018)

Sever, A.,ObadŠtitaroci, M. (2017): ***Revitalizacija industrijskog naslijeđa – modeli prenamjene za kulturnu i kreativnu industriju,*** in: Modeli revitalizacije i unaprjeđenja kulturnog naslijeđa, Znanstveni kolokvij, Arhitektonski fakultet, Sveučilište u Zagrebu, May 24, 2017, p. 77.

Smith, M. K. (2003): ***Issues in Cultural tourism Studies***, Routledge, Taylor and Francis Group London and New York

8

Regionalni razvoj - izazovi i prilike

Regional development - challenges and opportunities

Romina Alkier, PhD., Associate Professor
Faculty of Tourism and Hospitality Management Opatija
Primorska 42, 51410 Opatija
Phone: +385 51 294 718 Fax: +385 51 292 945
E-mail address: rominaa@fthm.hr

Daniela Gračan, PhD., Full Professor
Faculty of Tourism and Hospitality Management Opatija
Primorska 42, 51410 Opatija
Phone: +385 51 294 718 Fax: +385 51 292 945
E-mail address: danielag@fthm.hr

Vedran Milojica, MA., PhD Student
Faculty of Tourism and Hospitality Management Opatija
Primorska 42, 51410 Opatija
Phone: - Fax: +385 51 292 945
E-mail address: vedran.milojica@gmail.com

INFLUENCE OF CREATIVE INDUSTRIES ON THE TOURISM OF THE REPUBLIC OF CROATIA

UTJECAJ KREATIVNIH INDUSTRIJA NA TURIZAM REPUBLIKE HRVATSKE

ABSTRACT

Today creativity, as a capability of creating and realizing new ideas has become an inseparable part of economic life, survival and successful business. In the time of growing globalization and media integration, low transaction costs and reduced need for investing in a cheaper technology, the whole world has become a unique market for creators, no matter from where they originate. Market on which creators are doing business is exceptionally dynamic, and creative industry has the advantage in front of other sectors due to exceptional adjustability. When discussing tourism, the term creativity has been used frequently, especially related to the creative industries, with a goal of creating new tourist offer. The concept of creativity has integrated in tourism through a range of various forms, respectively through creative people, products, processes and places. The goal of this paper is to provide a theoretical insight into the field of creative industries and their contribution to the development of a competitive tourist offer, to analyse the state of creative industries as well as their influence on tourism development in selected world destinations, and in the Republic of Croatia, with a goal of determining the examples of good practice, and possibilities of strengthening this segment in the Republic of Croatia. The following scientific methods will be used in the paper: inductive and deductive method, method of analysis and synthesis, method of proving and refutation, and descriptive method. The significance of creative industry will be determined as a potential for creating competitive advantages of a destination on a world level, as well as increasing the tourist turnover.

Key words*: creative industries, creativity, tourism of the Republic of Croatia, competitive advantages.*

SAŽETAK

Kreativnost je danas, kao sposobnost kreiranja i ostvarivanja novih ideja, postala nezaobilazni dio ekonomskog života, opstanka i uspješnog poslovanja. U vrijeme rastuće globalizacije i medijske integracije, niskih transakcijskih troškova i smanjene potrebe za investiranjem u jeftiniju tehnologiju, cijeli svijet je postao jedinstveno tržište za kreativce, bez obzira odakle potječu. Tržišta na kojima kreativci posluju su izuzetno dinamična, i kreativne industrije imaju prednost pred drugim sektorima zbog izuzetne prilagodljivosti. Kada govorimo o turizmu, termin kreativnost se učestalo koristi, pogotovo povezano s kreativnim industrijama, a sa ciljem stvaranja nove turističke ponude. Koncept kreativnost se integrirao u turizam kroz niz različitih oblika, odnosno kroz kreativne ljude, proizvode, procese i mjesta. Cilj ovog rada je pružiti teoretski uvid u područje kreativnih industrija i u njihov doprinos razvoju konkurentne turističke ponude, analizirati stanje kreativnih industrija kao i njihov utjecaj na razvoj turizma u odabranim svjetskim destinacijama, i u Republici Hrvatskoj, sa ciljem utvrđivanja primjera dobre prakse, i mogućnosti ojačanja ovog segmenta u Republici Hrvatskoj. U radu će se koristiti slijedeće znanstvene metode: induktivna i deduktivna metoda, metoda analize i sinteze, metoda dokazivanja i opovrgavanja, i deskriptivna metoda. Značaj kreativnih industrija će se utvrditi kao potencijal za stvaranje konkurentnih prednosti destinacije na svjetskoj razini, kao i za povećanje turističkog prometa.

Ključne riječi*: kreativne industrije, kreativnost, turizam Republike Hrvatske, konkurentske prednosti.*

Introduction

Continuous changes on the contemporary European and world tourist market register strong presence of growing diversification as well as individualization of tourist´s needs, respectively, tourists are more open towards experiencing new, authentic, diverse and innovative tourist offer (Alkier Radnić, 2009) in relation to the traditional offer based on Sun, Sea and Sand. Global tourist trends impose a new way of understanding tourism as well as the appearance of "new" more experienced and more demanding tourists who seek diversity. Precisely such diversification of needs and motives due to which people decide to visit and stay in a certain destination brings to the qualitative movements from the traditional tourist offer (Vitasović, 2014). Specific forms of tourism have developed significantly over the years and became an inevitable part of a contemporary tourist offer due to the fact that their development enables overcoming the seasonality within a tourist destination (Ćorluka et al, 2013), and increasing the level of recognisability and competitiveness on the world tourist market. One of the specific forms of tourism that registered an incredibly high level of development is cultural tourism.

The UNWTO publication Tourism and Culture Synergies (2018) emphasizes a development of a stronger connection between culture and tourism for the following reasons:

- a significant interest in culture has been registered since it represents a source of a local identity within a tourist destination in terms of a globalization;
- throughout the years tourism has continued to register a strong positive growth on world level, which was caused, among other things, due to the much easier accessibility to cultural assets and new cultural experiences;
- cultural tourism has been recognized and perceived as a "good" specific form of tourism which contributes to the national and regional development since it enables generation of cultural, social and economic benefits.

Culture represents a fundamental part of the tourism experiences for tourists in Europe, and its importance is gaining on importance on a daily basis. Today cultural tourism represents one of the largest and fastest-developing global tourism markets; it has been estimated that four out of ten tourists choose their destination based on its cultural offering. Europe represents a key cultural tourism destination that possesses a unique and recognizable cultural heritage based on numerous museums, theatres, archaeological sites, historical cities, industrial sites, etc. Precisely this unique heritage enriches the lives of its citizens and provides inspiration for the development of cultural and creative industries. If adequately managed, development of these industries in combination with tourism can result in achieving not just economic benefits; tourists are stimulated to travel and experience unknown other people´s culture and tradition and appreciate the unique diversity, to establish new cultural ties, etc. (UNWTO, 2018). Republic of Croatia possesses a strong, unique and recognizable cultural identity as well as the richness of cultural resources, which represents a key pre-condition for achieving success on the world tourist market. Over the years Republic of Croatia made significant efforts aimed towards further development of its cultural tourism offer as well as developing its creative and cultural industries, which was additionally stimulated by European Union accession. It can be justifiably expected that further development of cultural and creative industries in the Republic of Croatia, and their further inclusion into the Croatian tourist product will stimulate positive effects for Croatian tourism (growth of tourist turnover, higher level of recognisability and competitiveness on the tourist market). The main aim of this paper is to provide a presentation of the importance of cultural and creative industries within a contemporary tourist product on the example of the Republic of Croatia, and how they contribute to the achieving competitiveness on the tourist market.

1. Characteristics of creative industries and their implications on tourism development

Culture and tourism are connected by an obvious synergy as well as developmental potential in strengthening competitiveness and attractiveness of destinations through sustainable valorisation of cultural assets because cultural resources enable authencity for tourism, while tourism, on the other hand, enables investments in material and non-material heritage. Cultural tourism represents one of the biggest and fastest growing world tourist markets, while cultural and creative industries are being more and more used in promotion of a destination, as a result of a necessity for differentiation of a regional identity and image. Culture has a more growing role in a tourist product and branding of a majority of regions, even those which have traditionally relied on the natural sources such as Sun and sea. By including cultural attractions, material and non-material heritage in the tourist offer, destinations are trying to emphasize their comparative advantages on a more competing tourist market and develop local specificities as a reply on the globalization of cultural trends (Golja and Urošević, 2016, 7).

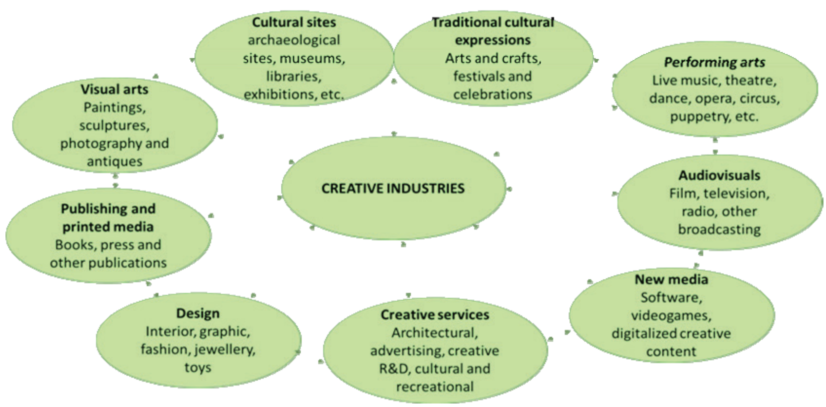
Over the years creative industries started gathering significant attention, and became an important area of research when discussing their contribution to the successful tourist offer development (Weber, 2017; Jelinčić et al. 2017; Jelinčić et al. 2012; Lazzaretti et al., 2014 and numerous others).

According to UNCTAD (2010, 37), Creative industries can be defined as:

- the cycles of creation, production and distribution of goods and
- services that use creativity and intellectual capital as primary inputs;
- constitute a set of knowledge-based activities, focused on but not
- limited to arts, potentially generating revenues from trade and intellectual
- property rights;
- comprise tangible products and intangible intellectual or artistic
- services with creative content, economic value and market objectives;
- stand at the crossroads of the artisan, services and industrial sectors;
- and constitute a new dynamic sector in world trade.

In the beginning of the 21st century cultural and creative industries have started experiencing significant changes as a result of the influence of development of digital technologies, the economic crisis which had a significant influence on the world economy, as well as changes in the regulatory framework. Support to the development of cultural and creative industries evolved very fast, respectively big changes were made in the intellectual property law, there was an increased support by the state aid, and their importance and contribution to the development of the economy were recognized (European Comission, N.D.). The following model presents the diversity and richness of all the elements that form contemporary creative industries, which significantly contribute to the development of contemporary (cultural) tourist offer.

Picture 1 *UNCTAD model of the creative industries*



Source: UNCTAD. 2010. Creative Report 2010 Creative Economy a feasible development option

OECD Studies on Tourism and the Creative Economy (2014) strongly emphasizes the important interrelation of creative industries with tourism and vice versa. Tourism´s link with creative industries manifests in the development of numerous opportunities. There is a strong possibility for development and diversification of tourist products and experiences, revitalization of the existing tourist product and total (cultural) tourist offer, application of creative technologies enables development and enhancement of (new) tourist experiences, and overcoming the limitations of the traditional cultural tourism models. Tourism is of great importance for development of creative industries due to the fact that the development of its offer enables valorisation of cultural and creative assets, it enables expansion of audience for creative products, supports the development of innovations, enables improvement or development of a new image for countries and regions, it opens up export markets, and supports professional newtwork and knowledge development.

2. Creative Industry´s Contribution to the successful Tourist Offer Development-presentation of selected International and Croatian trends

2.1. World tourism trends

World tourism has continued once again to register a strong growth. In 2016, international tourist arrivals (overnight visitors) reached 1,235 million on world level (3.9%) which represents an increase of 46 million in relation to the previous year. This has been the seventh year in a row that international tourism registers growth, following the global economic crisis (UNWTO Tourism Highlights 2017).

***Table 1** Tourist arrivals in the World and in the Europe*

Regions	2014	2015	2016
World	1,134	1,189	1,235
Europe	607,7	603.7	616.2
Northern	75.9	75.4	80.2
Western	180.0	181.4	181.5
Central/Eastern	126.6	121.4	126.0
Southern/Mediterranean	225.2	225.5	228.5
Of which EU-28	478.4	477.8	500.1
Asia and the Pacific	279.2	284.0	308.4
Americas	192.6	192.7	199.3
Africa	53.5	53.4	57.8
Middle East	53.3	55.6	53.6

Source: UNWTO Tourism Highlights 2017; UNWTO Tourism Highlights 2016

The data in the previous table indicate positive growth of tourist arrivals on world level in the period 2014-2016. By welcoming 616 million tourists in the year 2016, an equivalent to the half of the world total tourist arrivals, Europe has once again proven that it forms the very peak of the world tourism development, and is the strongest emissive tourism area and, at the same time, the peak outbound tourism destination. In 2016 international tourism receipts in Europe grew 1% in real terms to Euro 404 billion, which represents 37% of receipts worldwide (UNWTO Tourism Highlights 2017; Alkier Radnić et al., 2009). Culture represents a fundamental part of the tourism experience in Europe, and its importance is registering growth on daily basis. Within todays tourism flows cultural tourism represents one of the largest and fastest-developing global tourism markets, considering that approximatelly four out of ten tourists choose the destination for their holiday based on its cultural tourist offer. Contemporary tourists are increasingly attracted by intangible factors in the destination (i.e. atmosphere of the place, its association with famous people, ideas or events, respectively, with a destination´s unique culture, history and traditions. Within contemporary cultural tourism flows, Europe has remained a key cultural tourism destination due to its incomparable cultural heritage that includes museums, theatres, archaeological sites, historical cities and industrial sites, as well as music and gastronomy. Europe's cultural heritage enriches lives of its citizens as well as tourists, and provides inspiration for development of cultural and creative industries. By making Europe a top tourist destination, it helps generate economic growth, employment and social cohesion. The combination of culture and tourism can be a powerful driver of economic activity (UNWTO Tourism and Cultural Synergies, 2018). As the European Union examples of good practice, the characteristics of the following destinations can be emphasized (Udruga kreativnih gradova, 2018):

a) **Ljubljana (Slovenia)** became well known over the years as a fruitful literary centre where over 850 books are being published yearly. It has developed a dynamic creative scene, and hosts numerous international events. It is a home of a main program of a prestigious "Fabula Festival", and hosts over 60 writers a year. Cultural initiatives such as Library under the treetop, Literary Walks, and Ljubljana reads enable enrichment of public space, as well as activation and promotion of reading among young people. In order to enable creative surroundings for writers and other artists, the city started offering free space for maintaining cultural activities as well as starting infrastructural projects which create space for artists work and that way stimulate the development of creative industries;

b) The development of **Katovice (Poland)** was marked by the Industrial period. Under the moto "From hard industry to the creative industry" Katovice are severely investing in the development of creative and industrial industry with a goal of revitalization and regeneration of the city. On a year basis, the city invests approximately 45 million euro towards support of creative economy, being mostly focused on renewing cultural spaces dedicated to music, which stimulates the socio-economic development of the city. Katovice base their development on a long tradition of amateur choirs and orchestras, and the contemporary development of music gathers numerous genres from classical music, rock, jazz, baroque music, electronic and rap music which can be heard at twenty-seven music festivals which enable to the city profit of 2.7 million of euro annually;

c) One of the destinations that needs to be emphasized is **Alba Iulia** (Romania) which continuously shows how to respond numerous challenges that small and medium sized European cities are faced with: how to increase their visibility in the economic context and at the same time promote cultural heritage. This city owns a rich history as well as complex heritage which was practically in ruins, based on which an integrated approach to the branding of the city was built, which is directly connected to the city´s strategic plans. Through strategic positioning, resource valorisation and strengthening of the local identity, the city managed to position itself as a recognizable and desirable place for investor, tourists and citizens. Undertaking the project of branding the city enabled the restoration of the cultural heritage, as well as the increase of the city´s population due to the growth of work places, and increase of the number of tourists;

d) **Graz,** as the capital city of the southern Austrian province of Styria, is in possession of two historical monuments that are listed in the UNESCO´s list of world heritage. It has been building its strategy of the city of design since 2003 when it was the European Capital of Culture. Since 2011, it has been listed in the UNESCO Network of Creative Cities as the city of design. By recognizing the design as the approach to the urban culture, Graz has given the leading role to the formation of life environment to the intelligent design. The city also valorises equally the esthetical component of design as well as its ability of easing the everyday life. Graz intends to justify the title of the city of design with further significant improvements in the economic and tourist sector in its metropolitan area. , A society called Creative Industries Styria was formed with that particular purpose, in order to contribute to the promotion of the international cooperation as well as easing the establishment of connections with the private sector due to the fact that Graz is a home of numerous innovation enterprises which recognize the importance of design and creativity as unique opportunities for innovation.

2.2. Croatia

Republic of Croatia is a member of the European Union, and a country, with a long tourism tradition, which possesses numerous natural, cultural-historical and other resources, which represent the pre-condition for development of a high quality, contemporary and competitive tourist offer. In comparison with the other member states. Croatia registers a moderate growth of its tourist offer development, but still hasn´t reached its peak in relation to its true potential. Aware of this situation, and based on the results of monitoring which are the contemporary trends on the tourist market, respectively, what do contemporary tourists want, Croatia aimed its efforts towards further development of its tourist offer (Alkier et al., 2015), which has resulted in achieving a positive growth of its tourist turnover.

Table 2 *Tourist arrivals and overnights in the Republic of Croatia in the period 2005-2017*

	Achieved arrivals			**Achieved overnights**		
	Total	**Domestic**	**Foreign**	**Total**	**Domestic**	**Foreign**
2005	9.222.410	1.479.618	7.742.792	50.282.182	5.370.924	44.911.258
2006	9.655.410	1.667.442	7.987.968	51.791.844	5.907.117	45.884.727
2007	10.351.442	1.792.756	8.558.686	54.627.053	6.346.637	48.280.416
2008	10.453.601	1.789.020	8.664.581	55.668.893	6.401.207	49.267.686
2009	10.270.490	1.576.694	8.693.796	54.988.432	5.758.924	49.229.508
2010	10.604.116	1.493.374	9.110.742	56.416.379	5.424.058	50.992.321
2011	11.455.677	1.529.003	9.926.674	60.354.275	5.602.970	54.751.305
2012	11.835.160	1.465.934	10.369.226	62.743.463	5.221.326	57.522.137

	Achieved arrivals			Achieved overnights		
	Total	**Domestic**	**Foreign**	**Total**	**Domestic**	**Foreign**
2013	12.433.727	1.485.361	10.948.366	64.818.115	5.138.485	59.679.630
2014	13.128.416	1.505.455	11.622.961	66.483.948	5.160.376	61.323.572
2015	14.343.323	1.660.144	12.683.179	14.343.323	1.660.144	12.683.179
2016	15.463.160	1.748.590	13.714.570	77.918.855	5 819 465	72.099.390
2017	17.430.580	1.837.681	15.592.899	86.200.261	5.978.264	80.221.997
Index 2017/2005	**189,00**	**124,20**	**201,39**	**171,43**	**111,31**	**178,62**

Source: State Bureau for Statistics www.dzs.hr

The presented data indicate that tourist arrivals have been registering a continuous growth in the period 2005-2017. Total arrivals achieved growth of 89%, domestic arrivals 24,20%, while the number of foreign arrivals in this period has doubled. In the same period tourist overnights are also registering a moderate growth (with an exception for the year 2015 when a significant decrease was registered, respectively, total overnights achieved growth of 71,43%, domestic overnights 11,31%, and once again, the foreign overnights achieved the highest growth of 78,62%. Presented figures indicate that the Republic of Croatia has become recognizable on the international tourist market. In order to continue this positive trend of growth, it is important to determine how to improve the existing, and develop new services and products which will enable further competitiveness of a Croatian tourist product. Besides well-known traditional offer of Bathing tourism (3S-Sun, Sea and Sand), Croatia has invested great efforts towards development of Specific forms of Tourism, considering that their offer enables for tourists to satisfy their need for unique and unrepeatable experiences, and enables the development of a whole year offer, which significantly reduces the seasonal character of business. One of them is cultural tourism, which according to the Croatian strategy for tourism development 2020 (2013, 30), belongs into the dominant tourist products, which explains the reason why significant efforts were aimed towards its development on state level and the level of individual destinations. This resulted in formation of an Action Plan of a development of Cultural Tourism (2015), in which creative and cultural industries are taking an extremely significant part. The strategy emphasizes the existing demand for cultural tourism products in Croatia, and that this demand is, according to its size as well as market characteristics, similar to the one in the European countries.

Republic of Croatia has recognized the true potential of development as well as the importance of creative and cultural industries for further development of Croatian cultural tourist product, which was the reason why Croatian Cluster of Competitiveness of Creative and Cultural Industries was established. This cluster was formed according to the principle of a triple coil which combines economy, public administration and scientific and research sector. The cluster´s function manifests as being the mediator tending to establish successful communication and cooperation among these sectors, as well as establishing networking of industry´s representatives, and state and academic-scientific institutions. According to its activities, cluster contains of twelve sectors: architecture, audio-visual art-film and video, heritage - museums, libraries, archives, design - fashion design, graphic design, interior design, product design, music, performing arts - theater, Ballet, Dance, Book and publishing, Media - TV, radio, print media and web, Advertising and market communication, Applied arts - glass, ceramics, jewelry and other applied arts and crafts, Computer Games and New Media, and Visual arts - painting, sculpture, graphics, photography, new media. Within this cluster priority has been given on providing stronger support in research and development, innovations, experiments and entrepreneurship in the creative and cultural industries, enabling access to finance, stimulating human resources development, strengthening institutional and infrastructural support in the development of the creative and cultural industries, and finally accelerating the effects of spilling creative and cultural industries into other industries and society as a whole (Hrvatski klaster konkurentnosti kreativnih i kulturnih industrija, 2018). Also, a a new and innovative network called Creative cities of Croatia has been formed, within which the representatives of local communities and professionals in the field of creative and cultural industries act together towards creating and application of new and creative models of managing cultural and creative city resources in order to stimulate further development of the local economy as well as potential investments. Through formation of these managing models it is possible to identify true potentials as well as opportunities, in which the citizens participate as representatives of different interest spheres and participate in formation of local economy, all with a goal of creating unique and recognizable identity of cities, based on which investments will be focused towards development and growth, as well as offering new work places (Kreativni gradovi Hrvatske, 2018). Also, in the organization of previously mentioned Croatian Cluster of Competitiveness of Creative and Cultural Industries, and the Society of Cities, an official accession of Croatian cities to the project Creative cities of Croatia was made. The cities that have accessed were the following: Donja Stubica, Zlatar, Pregrada, Osijek, Čakovec, Vrgorac, Šibenik, Vodice, Kastav, Đakovo, Jastrebarsko, Drniš, Zabok, Ludbreg, Koprivnica, Pleternica, Oroslavje, Zadar, Zagreb, Ozalj, Kaštela, and the city of Rijeka (Udruga gradova, 2018). All the previously presented indicates that creative and cultural industries have become a significant part of the Croatian economy, and their development based on unique and recognizable cultural-historical particularities have a strong positive influence in terms of cultural tourism development. In order to present the importance of creative industries for the development of Croatian (cultural) tourism, following the authors will present the selected examples of good practice.

Within the capital city of the Republic of Croatia, the city of *Zagreb,* project *Festival Design District Zagreb*(2018)was developed with an idea and a goal to enable uniting through communication all the existing creative initiatives that are concentrated in the city zone whose main stream is the Martić Street. Despite the fact that his street was until recently known for many shops connected with the car industry, its urban identity has been transformed in recent years, due to which this street has significantly developed due to more present and propulsive creative community. This project´s goal is to enable stimulation of building a "Creative Zone Martićeva" primarily through networking and cooperation of stakeholders of the current local creative local scene, as well as strengthening their capacities, reviving unexploited space, and stimulating creation of new permanent and occasional facilities. This project emphasizes a high potential of the district to affirm production of culture and tourism in the function of the city´s development, by undertaking adequate creative and entrepreneurial ventures, and to stimulate design as well as other creative activities that stimulate structural changes crucial for development of cultural, craft and manufacture production, and help the transition from the traditional economy towards creative, sustainable and innovative economy. This festival was organized for the first time in 2016, and has been organized every year in June while many other activities occur during the whole year. It is necessary to emphasize that this valuable project won the Big prize of Croatian design society due to the fact that its activities managed to positively stimulate and form enthusiasm among the network participants who create these unique facilities, event visitors, neighbourhood residents, business owners, city institutions, and sponsors included in this manifestation through specific projects. Over hundred designers, architects and activists determined excellent possibilities to conduct their own projects within this festival, from those who promote domestic architectural heritage to those projects focused on designer experiments, or formation of new and innovative contents.

The city of *Rijeka* has also been registering development of its cultural tourist offer in the last decade, which is justified due to the possession of rich cultural-historical resources(Ivanović et al, 2015). Some of the activities have been focused towards development of creative industries and their inclusion into the development of Rijeka´s tourism. However still a lot needs to be done in order for it to reach its full potential. The Strategy of development of Cultural tourism of the city of Rijeka 2015-2020 (2015) emphasizes that the cultural policy of the city of Rijeka has developed a strong positive attitude towards successful development of its creative industries, which has been confirmed through the candidacy of Rijeka for the European Capital of culture, as well as undertaking the top priority projects of renewing the complex of the former factory Rikard Benčić and the Creativity Festival Republic. This represents a strong foundation for development of cultural tourism, considering that cultural and creative industries represent a significant factor in creating a contemporary and recognizable urban image of Rijeka. Also, formation of developmental documents as well as the cities tendencies towards development of creative industries sector brings the opportunity towards acquiring the financial assets from the European Union funds, if taken into consideration that creativity and innovativeness were given a strong priority by the European Union in the current programming period until the year 2020. Festival of Creative industries titled "Republic" (CRO. Republika) was organized for the first time in 2013. To the wider audience this festival was presented as an event which possesses educational and conference character, and its focus is strongly oriented toward new technologies as well as their importance for development of culture and the contemporary way of life in general. Its goal was to enable Rijeka´s positioning as the city of creativity and creative industries, respectively the formation of a brand of two key important infrastructural resources of the city, respectively, the Rikard Benčić complex with the Palace of the Sugar Refinery, and the boat Galeb, both under the protection of the Republic of Croatia. However, there are certain obstacles that Rijeka needs to overcome in order to achieve its full potential:

- enable further development of micro and small enterprises in the field of creative industries, tourism and cultural tourism, respectively tourist agencies that are oriented towards creation and promotion of original stories which reflect the true identity and particularity of Rijeka and Kvarner in general, agencies for new media which will through their activities enable adequate integration of culture and tourism, and actively work on formation of brand of Rijeka as an attractive and alternative urban destination which offers complete experience;
- to upgrade the existing cultural and tourist product offer, which would enable more clear connection and transformation into unique cultural tourist products which would enable for Rijeka to become more recognizable and competitive on the tourist market;
- introduce into the strategic and planning documents the measures for development of creative industries, for development of cultural and urban tourist product, conversion/adaptation of the existing objects of the industrial heritage for cultural tourism, more active inclusion and efficient of coordination of work of cultural institutions, cultural and tourist organizations, and city services in charge of creation, planning and conducting cultural facilities and events intended to attract tourists.

3. Developmental perspectives of Creative Industries and their implication on tourism development

It is visible from the presented in the previous chapter that the Republic of Croatia has indeed recognized the true potential and the advantages of development of creative industries for tourism and the economy in general. However, in relation to the competitive European and world tourist destinations which have developed this sector, there is still more work to do. Bearing this in mind, the following developmental measures related to the development of creative and cultural industries in tourism were proposed within the Croatian Strategy of Cultural tourism development (adaptation according to 2015):

- ensuring infrastructure for inclusion of cultural and creative industries into the (tourist) entrepreneurship, respectively, to establish a national and regional list of top priority cultural-tourist attractions and projects,and establishing the infrastructure for uniting the offer of cultural and creative industries;
- establishing infrastructure of uniting the offer of creative and cultural industries for tourism, respectively, ensuring the infrastructure through i.e. conversion of cultural heritage objects, where there exists a critical mass of "creatives" and demand for creative and cultural

industries, to form a few prototypes of Centres of creative and cultural industries with a plan of managing, and establishing them;
- in terms of developing cultural tourism product it is mandatory to open entrepreneurial opportunities for the private sector, especially small and medium entrepreneurs and entrepreneurs in creative and cultural industries;
- stimulating placement of creative and cultural industries tourist product on the tourist market directly to consumers and mediators (B2B);
- Improvement of communication activities;
- Improvement of the existing, and developing new knowledge and skills within creative and cultural industries as well as tourism industry.

Conducting of the previously mentioned developmental measures will result in further development of the existing, as well as developing new elements of a competitive tourist product.

4. Conclusion

The authors have presented the main characteristics as well as the importance of creative industries for the development of a competitive tourist product. The results within this paper indicate that a lot has been done in this field on the world level, respectively, numerous world destinations have recognized its true potential and are undertaking significant developmental activities in creative and cultural industries development within their countries-destinations. Republic of Croatia is moderately tracking contemporary trends, however, it still hasn´t reached its true potential. In order to do that, it is advisable to monitor the examples of good practice of the competing destinations, and to apply their experiences in domestic practice, while preserving its own authencity.

REFERENCES

Alkier Radnić, R. (2009): ***Turizam u Europskoj Uniji***. Sveučilište u Rijeci: Fakultet za menadžment u turizmu i ugostiteljstvu Opatija

Alkier Radnić, R., Gračan, D., Milojica, V: ***Tourism Features within the European Union with special attention paid to Croatia***, in: 7th International Conference Economic Integrations, Competition and Cooperation, Proceedings, University of Rijeka, Faculty of Economics, April 01-04, 2009, pp. 1-14

Alkier, R., Drpić, D. and Milojica, V. (2015): ***Doprinos marketinških strategija u ostvarenju konkurentne ponude nautičkog turizma Republike Hrvatske*****,** Pomorski zbornik, Vol.49-50 No.1, pp. 181-205

Ćorluka, G., Matošević Radić, M. and Geić, S. (2013): ***Selective Forms of Tourism – the Way of Extending the Summer Season*****,** Economy Transdisciplinarity Cognition, Vol. 16, No. 2, pp. 88-96

Dizajn district Zagreb. N.D. ***O projektu***, in: http://designdistrict.hr/hrvatski-o-projektu/(accessed 29th March 2018)

European Commission. N.D. ***CULTURE Supporting Europe's cultural and creative sectors: Supporting cultural and creative industries***, in: https://ec.europa.eu/culture/policy/cultural-creative-industries_en (accessed 29th March 2018)

Golja, T. and Urošević, N. (2016): ***Povezanost kulture i turizma***. In: Golja, T., ed.: Menadžment u kulturi i turizmu, Sveučilište Jurja Dobrile u Puli, Pula, pp. 3-25

Hrvatski klaster konkurentnosti kreativnih i kulturnih industrija. N.D. ***O hrvatskom klasteru konkurentnosti kreativnih i kulturnih industrija***, in http://hkkkki.eu/index.php/o-hkkkki/ (accessed 29th March 2018)

Institut za turizam Zagreb. (2015): ***Akcijski plan razvoja kulturnog turizma***, in http://www.mint.hr/UserDocsImages/arhiva/001_160128-AP_kulturni.pdf (accessed 28th March 2018)

Ivanović, S., Alkier, R., Milojica, V. (2015): ***Development perspectives of city tourism offer of Rijeka***, in: Singidunum International Tourism Conference-2015 Tourism Destination Competitiveness, Proceedings, Singidunum University, Faculty of Tourism and Hospitality Management, September 25, 2015, pp. 58-64

Jelinčić, D.A., Senkić, M. (2017): ***Creating a Heritage Tourism Experience: The Power of sense*****,** Etnološka tribina Vol. 40, pp. 109-126

Jelinčić, D.A., Žuvela, A. (2012): Facing the challenge? Creative tourism in Croatia, Journal of Tourism Consumption and Practice, Vol. 4, No. 2, pp. 79-90

Kreativni gradovi Hrvatske. (2017): ***O nama***, in http://kreativnigradovi.net(accessed 29th March 2018)

Kreativni gradovi Hrvatske. (2017): ***Primjeri iz EU***, in http://kreativnigradovi.net/primjeri-iz-eu/(accessed 29th March 2018)

Lazzeretti, L. Capone, F., Seçilmiş, I.E: ***Cultural and creative industries in Turkey A benchmarking with Italy and Spain***, in: Regional Studies Association European Conference, Proceedings, Regional Studies Association, June 15-18, 2014, pp.1-22

Ministarstvo turizma Republike Hrvatske. (2013): Strategija razvoja turizmaRepublike Hrvatske do 2020. godine, inhttp://www.mint.hr/UserDocsImages/arhiva/130426-Strategija-turizam-2020.pdf (accessed 29th March 2018)

OECD. (2014): ***Tourism and the Creative Economy,*** in https://read.oecd-ilibrary.org/industry-and-services/tourism-and-the-creative-economy_9789264207875-en#page2(accessed 29th March 2018)

State Bureau for Statistics www.dzs.hr (accessed 16th March 2018)

Turistička zajednica grada Rijeke. (2015): Strategija razvoja kulturnog turizma grada Rijeke 2015.-2020, in http://press.visitrijeka.hr/strateskiDokumenti/strategija_razvoja_kulturnog_turizma_grada_Rijeka.pdf (accessed 29th March 2018)

Udruga gradova. (2018):***Kreativni gradovi Hrvatske okupili se u Rijeci***, in http://www.udruga-gradova.hr/kreativni-gradovi-hrvatske-okupili-se-rijeci/ (accessed 28th March 2018)

UNCTAD. (2010): ***Creative Report 2010 Creative Economy a feasible development option***, in http://unctad.org/en/docs/ditctab20103_en.pdf (accessed 28th March 2018)

UNWTO (2016): ***UNWTO Tourism Highlights, 2016 Edition***, in https://www.e-unwto.org/doi/pdf/10.18111/9789284418145 (accessed 14th March 2018)

UNWTO (2018): ***Tourism and Culture Synergies***, in https://www.e-unwto.org/doi/pdf/10.18111/9789284418978 (accessed 14th March 2018)

UNWTO. (2017): ***UNWTO Tourism Highlights, 2017 Edition***, in https://www.e-unwto.org/doi/pdf/10.18111/9789284419029 (accessed 14th March 2018)

Vitasović, A. (2014): ***Konkurentno pozicioniranje turističke ponude Republike Hrvatske*****,** in: Gržinić, J. and Bevanda, V., ed: Suvremeni trendovi u turizmu, Sveučilište Jurja Dobrile u Puli, Pula, pp. 116-152

Weber, A.S: ***Creative Industries Tourism in Qatar: Economy Diversification through arts and heritage development***, in: 4th International Scientific Conference ToSEE Tourism and Creative Industries: Trends and Challenges, Proceedings, University of Rijeka, Faculty of Tourism and Hospitality Management, May 04-06, 2017, pp. 645-655

Tamara Babić, bacc. ing. traff., student
Polytechnic of Rijeka/Traffic Department
Vukovarska 58, 51000 Rijeka, Croatia
Phone: + 385 51 353 777 Fax: + 385 51 673-529
E-mail address: tbabic1@veleri.hr

Marino Golob, M.Sc., senior lecturer
Polytechnic of Rijeka/**Head of Business Department**
Vukovarska 58, 51000 Rijeka, Croatia
Phone: + 385 51 353 718 Fax: + 385 51 211-270
E-mail address: golob.marino@gmail.com

Snježana Babić, Ph.D., research associate, senior lecturer
Polytechnic of Rijeka/Business Department
Vukovarska 58, 51000 Rijeka, Croatia
Phone: + 385 51 353 706 Fax: + 385 51 211-270
E-mail address: sbabic@veleri.hr

THE RESULTS OF A STUDY OF A BUS TERMINAL FOR THE PURPOSE OF TOURISM PROMOTION

REZULTATI ISTRAŽIVANJA AUTOBUSNOG KOLODVORA U SVRHU TURISTIČKE PROMIDŽBE

ABSTRACT

The quality of organization of passenger traffic in general, and especially in the field of road passenger transport, is of paramount importance in the promotion of the tourism product of a particular country. This is especially important for any destination that wants to value its resources through tourist traffic. In this sense, user satisfaction with the quality of certain services provided by bus terminals is a key factor not only for the successful operation of the system itself but also for the tourism promotion of individual tourist regions, starting from the assumption that the first impression of a guest about a place is formed upon arrival at a bus terminal. The results of previous research have shown the sustainability of the claims. The main purpose of this study was to evaluate customer satisfaction with the quality of certain services of the main bus terminal of the city of Rijeka. For the purpose of this research, a new survey questionnaire was created and it collected data from a total of 156 users of Žabica bus terminal in Rijeka. The collected data were analysed by a method of descriptive statistical analysis, t-test, analysis of variance and Turkey post hoc test. By analysing the collected results, it was determined that the level of dissatisfaction was the highest in relation to the appearance of the waiting room, the functionality of platforms and the quality of facilities and services, thus confirming the need for modernization of the infrastructure of Žabica bus terminal, as one of the most important facilities in the town of Rijeka. The results also indicated that the users of the services were mostly satisfied with the staff's conduct, simplicity and availability of the ticket sales service and the speed of selling tickets. In relation to gender, the difference in user satisfaction with services was not confirmed, however, there was a statistically significant difference in user satisfaction with services in relation to age, user status, length of time spent at the bus terminal, length of purchase or booking of bus tickets, and length and frequency of use of services. The research results obtained can be used by practitioners that aim to develop passenger traffic as an essential element of tourist recognition of a certain region, as well as by theoreticians in analysing behaviour of users of certain services in order to increase the quality and *satisfaction of customers and clients to consequently increase profits and bring the entire tourist service of all Croatian regions to a higher level.*

Key words: *customer satisfaction, services provided by bus terminals, tourism promotion, Žabica bus terminal in Rijeka, statistical analysis.*

SAŽETAK

Kvaliteta organizacije putničkog prometa općenito, a posebno cestovnog putničkog prometa od izuzetne je važnosti u promociji turističkog proizvoda neke zemlje. Naročito je to značajno za svaku destinaciju koja želi svoje resurse valorizirati putem turističkog prometa. Zadovoljstvo korisnika usluga autobusnog stajališta, u tom je pogledu, ključan čimbenik ne samo za uspješno poslovanje sustava istih, već i za turističku promidžbu pojedine turističke regije, polazeći od toga da gosti prvi dojam o mjestu dobivaju silaskom na autobusna stajališta. Rezultati prethodnih istraživanja potvrdili su održivost iznesenih tvrdnji. Osnovna svrha ovog rada bila je ocijeniti zadovoljstvo korisnika usluga glavnog autobusnog stajališta grada Rijeke. Za potrebe istraživanja kreiran je novi anketni upitnik kojim su prikupljeni podaci od ukupno 156 korisnika usluga glavnog autobusnog stajališta Žabica u Rijeci. Analiza prikupljenih podataka vršena je pomoću metode deskriptivne statističke analize, t-testa, analize varijance i Tukey post hoc testa. Dobiveni rezultati istraživanja pokazali su da su najveće nezadovoljstvo korisnici iskazali sa izgledom čekaonice autobusnog stajališta, funkcionalnošću perona te s kvalitetom pratećih objekata i usluga što potvrđuje potrebu za modernizacijom infrastrukture autobusnog stajališta, koji je jedan od značajnijih objekata grada Rijeke. Utvrđeno je da su korisnici usluga uglavnom zadovoljni s ljubaznošću osoblja, jednostavnošću i pristupačnosti dobivanja usluge prodaje karata te brzinom prodaje karata. S obzirom na spol nije potvrđena razlika u zadovoljstvu uslugama, međutim potvrđena je statistički značajna razlika u zadovoljstvu uslugama s obzirom na dob, status zaposlenosti korisnika, dužinu provođenja vremena na autobusnom stajalištu, dužinu čekanja usluge kupovine ili rezervacije karata te dužinu i učestalost korištenja usluga. Dobiveni rezultati istraživanja mogu biti od koristi praktičarima koji imaju za cilj razvoj putničkog prometa kao bitnog elementa turističke prepoznatljivosti nekog kraja, isto tako i teoretičarima pri analizama ponašanja korisnika usluga prometnih stajališta kako bi povećali kvalitetu i zadovoljstvo korisnika i klijenata s ciljem povećanja profita i podizanja ukupne turističke usluge svih hrvatskih regija na višu razinu.

Ključne riječi: *zadovoljstvo korisnika, usluge autobusnog kolodvora, autobusni kolodvor Žabica u Rijeci, statistička analize.*

1. Introduction with the Literature Review

In recent years, tourism has been one of the main strategic economic branches of Croatia, thus making a quality transport system particularly important. According to the *Transport Development Strategy of the Republic of Croatia* (2017-2030), the system of local or regional bus transport is recognized as an extremely key factor for the Croatian tourist areas. Therefore, in relation to tourism, traffic and traffic infrastructure provide “the tourist experience” relative to a certain destination, which remains permanently in the memory of each traveller (Šolman, 2010). Consequently, the satisfaction of users with the services provided by the bus terminals is a key factor not only for the successful operation of the system itself but also for the promotion of tourist regions. The bus terminals are specially designed facilities for the reception, dispatch and delivery of buses and passengers that must meet the requirements laid down in the Road Traffic Act (Štefančić et al., 2015, p. 2); where service users can be divided into the following categories (Štefančić et al., 2015, p. 57): travellers, visitors, and escorts. The satisfaction of each category of users of services provided by the bus terminal is the key factor in determining the relationship between the requirements, the type of service and the capacity of the bus terminal. According to Kotler (1997, p. 40), customer expectations are the result of their past purchases, tips from people in their environment, information that can be obtained from competing companies, etc. It is important to point out that the needs of people and their desires change over time, which means that they can be influenced by numerous cultural, social, personal and/or psychological factors.

From the analysis of the available literature regarding the area of quality of bus terminals and user satisfaction, it is apparent that, taking into account various aspects, different authors have identified in their research a few factors that can affect the satisfaction of the service users provided by the bus terminals. As an example, Eboli and Mazzulla (2007) have measured the satisfaction of users in the context of public transport services in South Italy in the following categories of factors: (a) planning and reliability: frequency, reliability (departure and arrival promotion), availability of information; (b) comfort and other factors: equipment of bus terminal (canopies, benches on bus terminal), overcrowded buses, prices, physical maintenance of bus stops (maintenance of cleanliness (telephone, e-mail, internet, etc.), staff courtesy,...); (c) connectivity: availability of bus terminal, route characteristics, where the category of factor planning and reliability had the strongest influence (Eboli and Mazzulla, 2011). In the case study, Pakdil and Kurtulmuşoğlu (2014) have analysed the satisfaction of passengers/users of the intercity passenger transport on fast roads. Their research findings have shown that customer needs and expectations are most directly related to customer perceptions of employee competences and courtesy. Furthermore, starting from the claim that the perception of the passenger/user satisfaction with the services may be related to his/her satisfaction with the waiting time, Feng et al. (2016) have found that passenger satisfaction with the waiting time directly affects the satisfaction rating of the bus terminal. Therefore, the authors conclude that the satisfaction of passengers with the waiting time can be improved by the evaluation of quality of public transport e.g. managers can improve the level of public transport services by providing users with real-time arrival information of the buses to the station by setting timing stations at bus terminals. In their research, Islam et al. (2014) have also confirmed that the waiting time at bus stops is a key factor that affects customer satisfaction.

As previously mentioned, a special emphasis in this paper is placed on Žabica bus station in Rijeka (Figure 1). Given that the existing literature has not found any research analysing the factors of user satisfaction *with certain services provided by the bus terminal* Žabica in Rijeka, the research conducted in this paper is considered justified.

Figure 1 *Žabica Bus Terminal in Rijeka*

Source: author's processing

2. Research Methodology

2.1. Objectives and Methods of Research

The main purpose of this study was to evaluate the satisfaction of users of the main bus terminal of the city of Rijeka as one of the major tourist destinations in Croatia. Therefore, the following research objectives were needed: (a) to identify the services of Žabica bus station in Rijeka; (b) to identify the services of Žabica bus station in Rijeka that resulted in customer satisfaction; (c) to identify the services that resulted in dissatisfied users; (d) to determine whether there was a statistically significant difference in customer satisfaction with the services of Žabica bus station related to the demographic characteristics and the user experience of the survey respondents. The gathering of data in the empirical part of the research was conducted by the survey method. The processing of collected data was done by descriptive statistics, t-test, one-way analysis of variance (ANOVA) and Tukey post hoc test.

2.2. The Instrument and Procedure Used in the Research

For the purpose of this research, a new questionnaire was prepared, containing 20 closed-type questions. The survey questionnaire was based on the literature examined until that point, on the personal experience of the author of the paper with the service users during work (info desk, call centre, cash register and traffic office) at Žabica terminal in Rijeka, and on the basis of data and information obtained from the professional staff, which at the time of conducting this research, worked at the aforementioned venue (see Babić, 2017).

Data collection was conducted from the beginning of June to the end of August 2016. Data were collected from 15 questionnaire respondents directly by paper/pen at Žabica bus station in Rijeka, and 141 users via an online survey distributed via Facebook (www.facebook.com). The results of the printed surveys did not differ significantly from the results obtained through the online survey, which can confirm the honesty of the answers collected through the online questionnaire (see Babić, 2017).

2.3.Participants in Research

The study included 156 participants - users of Žabica bus terminal in Rijeka. 55% of the participants were female and 45% were male. Among the participants, the most frequent users were between 19 and 26 years of age (67%), followed by 11% of participants aged 27 to 34, with the smallest percentage of participants (2%) being over 60 years of age. The largest part of users included beneficiaries of the service/employee status (46.8%) and those who had student status (46.2%), while the smallest percentage of participants had the status of learner/pupil (1.3%). Most of those service users had a high school education (57.7%), followed by 24.4% with a university or a professional level of master's degree, while the least of them, 1.3%, had completed only elementary school. Most of the survey participants, 66% of those surveyed, stated that they belonged to the category of passengers; 19.2% of them belonged to the category of visitors, while 7.7% of them used the services of Žabica terminal as escorts to passengers/visitors, and 7.1% belonged to other categories.

The largest part of users (57%) had been using Žabica bus terminal for more than 6 years, and 62.8% of them used the services of Žabica every day. More than half of the survey respondents (56.4%) obtained travel information through websites and internet, while the largest part of survey respondents (83.3%) bought a bus ticket at the bus station, 77.6% of them stated that they were waiting for less than 10 minutes. At the bus terminal, the largest percentage of users (87.2%) were retained less than 30 minutes prior to entering the bus.

3. Research Results and Discussion

3.1. Analysis of User Satisfaction with the Quality of Certain Services Provided by Žabica Bus Terminal in Rijeka

According to the average means shown in Table 1, it is evident that the survey respondents users of the services of Žabica in Rijeka expressed their satisfaction with the services with an average rating of 1.86 to 3.77.

Table 1 *Percentage of respondents (%) on the scale, of 1 (totally incorrect) to 5 (fully accurate), average value (M) and standard deviation (SD) in relation to answers to the selected variables on user satisfaction.*

Variables of customer satisfaction with the quality of certain services provided by a bus terminal	Respondent percentage (%)					M (SD)
	1	2	3	4	5	
Speed of services (selling tickets, information acquisition and more)	0.0%	5.1%	41.7%	45.5%	7.7%	**3.56 (0.71)**
Simplicity and availability of ticket sales services	1.3%	3.8%	21.8%	62.8%	10.3%	**3.77 (0.74)**
Conduct of staff responsible for the provision of services (ticket sales, obtaining information, etc.)	0.0%	9.6%	19.2%	56.4%	14.7%	**3,76 (0,82)**
Possibility of obtaining travel information (number of platforms, departure time and departure etc.)	3.2%	12.2%	38.5%	30.1%	16.0%	**3,44 (1,00)**
Quality of waiting room appearance	42.3%	35.9%	15.4%	6.4%	0.0%	**1,86 (0,91)**
Functionality of platforms (place of entry and exit of bus passengers)	32.1%	37.8%	16.0%	11.5%	2.6%	**2,15 (1,08)**
Quality of facilities and services (e.g. toilets, shops, cafes etc.)	24.4%	39.7%	21.2%	11.5%	3.2%	**2,29 (1,06)**

Source: Authors' calculation

The largest part of the survey respondents (73.1%) expressed their satisfaction with the simplicity and accessibility of the ticket sale service at Žabica bus station in Rijeka, and 71.1% of them expressed their satisfaction with the conduct of the staff responsible for the provision of services (ticket sales, obtaining information, etc.), while more than half of the survey respondents, 53.2%, were satisfied with the speed of services (ticket sales, information and other). On the other hand, the most dissatisfied users of Žabica bus station service in Rijeka reported the following factors: appearance of the waiting room (78.2%), functionality of the platforms (entrance and exit of bus passengers) (69.9%) and quality of facilities and services (e.g. toilets, shops, cafes etc.) (64.1%).

Furthermore, the results of the analysis of total user satisfaction with the services show that survey respondents evaluated the overall quality of the service provided (on a scale of 1 = excellent to 5 = insufficient) on an average mean $M = 2.75$, ($SD = 0.961$).

3.2. Differences in the Level of User Satisfaction Provided by a Bus Station with Regard to the Selected Demographic Variables and Ways of Using Services

The results of the t-test, a one-way analysis of variance (ANOVA), which tested the levels of user satisfaction differences with the services provided by Žabica bus terminal in Rijeka with regard to the selected demographic variables and ways of using services, are shown in Tables 2, 3 and 4.

Furthermore, ANOVA results shown in Table 2 indicate that there is no significant difference in the selected variables of user satisfaction with the services provided by Žabica in Rijeka based on gender, level of education and categories of passengers. However, ANOVA results indicate that there is a significant difference ($p<0.05$) in the level of user satisfaction in terms of possibility of obtaining travel information (number of platforms, departure time and departure etc.) based on the user age. Tukey's post hoc test showed a significant difference ($p=.046$; $p<.05$) between the 27–34 age group ($M = 2.82$, $SD = .95$) and the over-60 age group ($M = 4.69$, $SD = .58$), with the older group showing a higher level of satisfaction with the possibility of obtaining travel information. Furthermore, ANOVA results in Table 2 show a significant difference ($F = 3.401$; $p = .011$) in the level of user satisfaction in terms of simplicity and availability of the ticket sales services based on the user status. Tukey's post hoc test showed a significant difference ($p<.05$) between the unemployed group ($M = 3.00$, $SD = 1.26$) and the students group ($M = 3.92$, $SD = .67$), with the latter having a higher level of satisfaction with the simplicity and availability of the ticket sales services.

Table 2 *ANOVA table showing relationships between the selected variables of user satisfaction with the services provided by Žabica in Rijeka and the selected demographic variables.*

Variables of customer satisfaction with the quality of certain services provided by a bus terminal	**Gender**	**Age**	**Status**	**Level of education**	**Category of passengers**
Speed of services (selling tickets, information acquisition and more)	t= -.23 Sig.= .815	F= 1.23 Sig.=.295	F= 1.56 Sig.= .187	F= .81 Sig.= .563	F= 1.20 Sig.= .311
Simplicity and availability of ticket sales services	t= -.84 Sig.= .401	F= .96 Sig.=.452	**F= 3.40 Sig.= .011***	F= 1.16 Sig.= .331	F= 1.06 Sig.= .370
Conduct of staff responsible for the provision of services (ticket sales, obtaining information, etc.)	t= .75 Sig.= .457	F= 1.82 Sig.=.099	F= .49 Sig.= .747	F= 1.72 Sig.= .121	F= 1.33 Sig.= .267
Possibility of obtaining travel information (number of platforms, departure time and departure etc.)	t= -.24 Sig.= .809	**F= 2.64 Sig.=.019***	F= 1.92 Sig.= .110	F= 1.14 Sig.= .342	F= .25 Sig.= .859
Quality of waiting room appearance	t= .69 Sig.= .493	F= .92 Sig.= .483	F= 1.20 Sig.= .314	F=.73 Sig.=.628	F= .77 Sig.= .511
Functionality of platforms (place of entry and exit of bus passengers)	t= .40 Sig.= .690	F= 1.71 Sig.= .121	F= .35 Sig.= .845	F= 1.50 Sig.= .181	F= 1.63 Sig.= .185
Quality of facilities and services (e.g. toilets, shops, cafes etc.)	t= -.55 Sig.= .582	F= .67 Sig.= .671	F= .40 Sig.= .808	F= .29 Sig.= .943	F= .35 Sig.= .787

*Source: Authors' calculation * Significant at 0.05 level*

The results of a one-way analysis of variance (Table 3) show no significant difference ($p<0.05$) in the selected variables of user satisfaction with the services provided by Žabica in Rijeka based on the user style of obtaining travel and other information, but ANOVA results indicate a significant difference ($p<0.05$) in the level of user satisfaction with the speed of services (selling tickets, information acquisition and more) based on the length of time using the bus terminal ($F=2.57$, $p=.04$). Tukey's post hoc test showed a significant difference ($p<.05$) between the user group using Žabica bus terminal for 2 to 3 years ($M = 3.92$, $SD = .69$) and the user group using it for 6 to 10 years ($M = 3.39$, $SD = .50$), with the first group having a higher level of satisfaction with the speed of service.

ANOVA results shown in Table 3 show a significant difference in user satisfaction with the functionality of the platforms ($F = 2.73$, $p = .02$) and the quality of the facilities and services (e.g. toilets, shops, cafes etc.) ($F = 2.43$, $p = .04$) based on their intensity of using Žabica bus terminal. A post hoc Tukey test showed a significant difference ($p<.05$) between the user group using the services only once a week ($M=3.38$, $SD= 1.19$) and the user group using the services 2 to 3 times a week ($M = 2.03$, $SD = 1.02$), with the latter group having a higher level of satisfaction with the functionality of the platforms. Also, the post hoc test showed a significant difference ($p<.05$) between the user group using the bus terminal only several times a year ($M = 3.60$, $SD = 1.67$) and the user group using the services 2 to 3 times a week ($M = 2.13$, $SD = .97$), with the second group showing a higher level of satisfaction with the quality of facilities and services.

Table 3 *Results of ANOVA for the selected variables of satisfaction with the services of Žabica in Rijeka with regard to the user experience*

Variables of customer satisfaction with the quality of certain services provided by a bus terminal	**The length of time of using the bus terminal**	**The intensity of using of bus terminal**	**User style of obtaining travel and other information**
Speed of services (selling tickets, information acquisition and more)	**F= 2.57 Sig.= .040***	F= .68 Sig.= .642	F= 1.24 Sig.= .294
Simplicity and availability of ticket sales services	F= .78 Sig.= .542	F= .60 Sig.= .699	F= .45 Sig.= .638
Conduct of staff responsible for the provision of services (ticket sales, obtaining information, etc.)	F= 1.28 Sig.= .281	F= 1.76 Sig.= .125	F= .24 Sig.= .785
Possibility of obtaining travel information (number of platforms, departure time and departure etc.)	F= .48 Sig.= .748	F= 2.20 Sig.= .057	F= .24 Sig.= .785
Quality of waiting room appearance	F= 1.08 Sig.= .367	F= .94 Sig.= .456	F= 1.20 Sig.= .305
Functionality of platforms (place of entry and exit of bus passengers)	F= .92 Sig.= .454	**F= 2.73 Sig.= .022***	F= 1.67 Sig.= .191
Quality of facilities and services (e.g. toilets, shops, cafes etc.)	F= .74 Sig.= .566	**F= 2.43 Sig.= .038***	F= 1.97 Sig.= .143

*Source: Authors' calculation, *Significant at 0.05 level*

ANOVA results in Table 4 show no significant difference in user satisfaction with the quality of certain services provided by the bus terminal based on the user style of buying a bus ticket, but the results show a significant difference (p<.05) in terms of satisfaction with the conduct of the staff responsible for the provision of services (ticket sales, obtaining information, etc.) based on the length of time spent there before entering the bus.

Table 4 *Results of ANOVA for the selected variables of satisfaction of services of Žabica in Rijeka with regard to the user experience*

Variables of user satisfaction with the quality of certain services provided by a bus terminal	**User styles for buying a bus ticket**	**The length of time before entering the bus**	**The length of the waiting time for the purchase or reservation of bus tickets**
Speed of services (selling tickets, information acquisition and more)	F=1.32 Sig.= .270	F=.76 Sig.=.580	**F=6.58 Sig.=.000***
Simplicity and availability of ticket sales services	F= 1.07 Sig.=.345	F=1.94 Sig.=.090	**F=3.60 Sig.=.008***
Conduct of staff responsible for the provision of services (ticket sales, obtaining information, etc.)	F=.32 Sig.=.724	**F=3.15 Sig.=.010***	F=1.69 Sig.=.155
Possibility of obtaining travel information (number of platforms, departure time and departure etc.)	F=.83 Sig.=.439	F=1.82 Sig.=.112	**F=3.89 Sig.=.005***
Quality of waiting room appearance	F=1.13 Sig.=.325	F=.48 Sig.=.795	F=1.00 Sig.=.983
Functionality of platforms (place of entry and exit of bus passengers)	F=.45 Sig.=.636	F=.33 Sig.=.894	F=.13 Sig.=.397
Quality of facilities and services (e.g. toilets, shops, cafes etc.)	F=.44 Sig.=.645	F=.44 Sig.=.819	F=.68 Sig.=.604

*Source: Authors' calculation, *Significant at 0.05 level*

A post hoc Tukey test showed a significant difference (p<.05) between the user group waiting for a bus at the bus terminal for less than 20 minutes (M = 3.92, SD = .81) and the user group staying at bus terminal between 31 and 40 minutes (M = 3.25, SD = 1.22), with the second group having a higher level of satisfaction with the staff conduct.

A summary of the results is shown in Table 4. ANOVA results show significant difference ($p<.05$) in user satisfaction in terms of speed of service (selling tickets, information acquisition and more), simplicity and availability of ticket sales services and possibility of obtaining travel information (number of platforms, departure time and departure etc.) at Žabica bus terminal in Rijeka based on the length of waiting time before the purchase or reservation of bus tickets. Tukey's post hoc test showed a significant difference between the user group waiting for less than 5 minutes (M=4.00, SD=.72), the user group waiting between 6 and 10 minutes (M=3.47, SD=.63), the user group waiting between 11 and 15 minutes (M=3.25, SD=.68) and the user group waiting between 16 and 20 minutes (M=3.25, SD=.71); with the group waiting for less 5 then minutes having a higher level of satisfaction with the speed of services (ticket sales, information acquisition and more). Furthermore, Tukey's post-hoc test showed a significant difference between the user group waiting for less than 5 minutes on the ticket purchase service (M=4.00, SD=.82) and the user group waiting between 11 and 15 minutes (M=3.46, SD=.83), with the first group having a higher level of satisfaction with the simplicity and availability of ticket sales services at Žabica bus terminal. Post hoc Turkey test showed a significant difference between the user group waiting on a ticket purchase service for less than 5 minutes (M=3.90, SD =.87) and the user group waiting between 6 and 10 minutes (M = 3.32, SD = 1.00), with the first group having a higher level of satisfaction with the possibility of obtaining travel information (number of platforms, departure time and departure etc.).

4. Conclusion

The bus terminals are a key factor in the quality of tourism promotion and attractiveness of each tourist destination, and the quality of its infrastructure is of a particular strategic importance for the development of tourism and economy of Croatia. This paper has shown the context of user satisfaction with certain services provided by Žabica bus terminal in Rijeka, as a one of the significant tourist destinations in Croatia. According to the results of this research, the users of Žabica bus terminal in Rijeka gave the quality of its services an average rating of *good*. Mentioned results indicate the perceived need for possible improvement of the services provided by Žabica bus terminal. By analysing the collected results, it was determined that the level of dissatisfaction was the highest in relation to the waiting room appearance, the functionality of platforms and the quality of facilities and services (e.g. toilet, shops, cafes etc.), thus confirming the need for modernization of the infrastructure of Žabica bus terminal, which is one of the most significant facilities in the town of Rijeka. Furthermore, the results of this study indicated a significant difference between user satisfaction with certain services provided based on their age, status, length and intensity of use of Žabica bus terminal, length of the waiting time before entering the bus and the waiting time before the purchase or reservation of tickets ($p <.05$).

The results of study have confirmed the need for modernization of the infrastructure of Žabica bus terminal in Rijeka. Under the influence of various trends, about ten years ago, the authorities in the City of Rijeka have begun planning the construction of a new bus terminal "West Žabica" (http://www.3lhd.com/hr/projekt/autobusni-terminal-zabica); however, at the time of writing this paper, work has yet to begin on the construction of the said terminal.

Limitations of this research can be observed in a small number of participants, as well as in the selected factors of user satisfaction with regard to the services provided by the bus terminal. On the other hand, the results of this paper are based on the theoretical analysis and the practical experience that one of the co-authors of this paper gained while working at Žabica bus station in Rijeka, which is considered an additional contribution of this paper. The results of this paper can be used in practice and as a basis for future research that should involve more bus terminals of Croatian tourist destinations.

REFERENCES

Babić, T. (2017): ***Zadovoljstvo usluga autobusnog kolodvora Žabica u Rijeci***, Završni rad (mentor: mr. sc. Marino Golob, v. pred.), Veleučilište u Rijeci

Eboli, L., Mazzulla, G. (2007): ***Service quality attributes affecting customer satisfaction for bus transit***. Journal of public transportation, 10(3), pp. 21-34.

Eboli, L., Mazzulla, G. (2011): ***A methodology for evaluating transit service quality based on subjective and objective measures from the passenger's point of view***. Transport Policy, 18(1), pp. 172-181.

Feng, S., Wu, H., Sun, X., Li, Z. (2016): ***Factors on perceived waiting time and implications on passengers' satisfaction with waiting time***. PROMET Traffic & Transportation, 28(2), pp. 155-163.

Group of authors (2017): ***Transport Development Strategy of the Republic of Croatia*** (2017 - 2030), Ministarstvo mora, prometa i infrastrukture, Zagreb

Islam, R., Chowdhury, M. S., Sarker, M. S. i Ahmed, S. (2014): ***Measuring customer's satisfaction on Bus Transportation***. American Journal of Economics and Business Administration, 6(1), pp. 34

Kotler, P (1997): ***Upravljanje marketingom: analiza, planiranje, primjena i kontrola***, 9. izd. Zagreb, Mate.

Pakdil, F., Kurtulmuşoğlu, F. B. (2014) ***Improving service quality in highway passenger transportation: a case study using quality function deployment***. EJTIR, 14(4), pp. 375-393.

Šolman, S. (2010): ***Uloga cestovnog prometa u turizmu Hrvatske***. Acta turistica nova, 4(2), pp. 231-246.

Štefančić, G., Presečki, I., Križanović, S. (2015): ***Autobusni kolodvori***, Fakultet prometnih znanosti, Zagreb, 2015.

Zakon o prijevozu u cestovnom prijevozu, »Narodne novine«, broj 82/13, http://www.zakon.hr/z/245/Zakon-o-prijevozu-u-cestovnom-prometu, (accessed 20 March 2018)

Rikard Bakan, mag.oec
College of Tourism and IT Management in Virovitica
Matije Gupca 78, 33405 Virovitica
Tel: +385992065002; Fax: +38533721037
E-mail address: rikard.bakan@vsmti.hr

Dejan Tubić, PhD
College of Tourism and IT Management in Virovitica
Matije Gupca 78, 33405 Virovitica
Tel: +385986556906; Fax: +38533721037
E-mail address: dejan.tubic@vsmti.hr

Juraj Randelj, mag.oec
College of Tourism and IT Management in Virovitica
Matije Gupca 78, 33405 Virovitica
Tel: +385981935092; Fax: +38533721037
E-mail address: juraj.randelj@vsmti.hr

FOOD HERITAGE – A KEY FACTOR FOR POSITIONING SLAVONIA AS A LIFESTYLE DESTINATION

GASTRONOMSKO NASLIJEĐE - KLJUČAN ČIMBENIK POZICIONIRANJA SLAVONIJE KAO LIFESTYLE DESTINACIJE

ABSTRACT

Global tourism market has seen a significant interest growth for authentic and new experiences connected to the local culture and the way of life at the destinations that the tourists visit. Local gastronomy and authentic and recognizable cuisine can be excellent connectors with other parts of tourist offer that make the destination recognizable, i.e. they can present a means for market positioning and raising the competitive advantages of the destination. One of the more important challenges of the experience economy, a new economic paradigm in the sector of tourism, is finding a means of using the intangible heritage, culture of living and working where the culture of food production and the whole experience connected to food play a significant role as well as using this heritage as a ground for designing original and competitive tourist experiences. The aim of this paper is to present the possibilities of positioning Slavonia as a recognizable gourmet destination in the Croatian tourist market. The work is based on the growth of tourist's interests for gastronomy and other tourist experiences connected to it, an important impulse for visiting the Croatian tourist destination, which was also indicated by the recent TOMAS summer 2017 research. The region of Slavonia has an extremely rich tourist attraction base connected to gastronomy and other intangible heritage connected to it. It presents a strong but still insufficiently exploited means of the region's branding and its positioning as a lifestyle destination of the perennial tourism. A research among the county tourist boards in Slavonia was conducted for the purpose of this work. The goal of the research was to examine the manner of using gastronomy and other tourist experiences connected to it as a motive for branding and positioning the tourist offer. Moreover, the authors have conducted a survey among the owners and managers of ten restaurants in the mentioned area in order to examine the extent of representing the local gastronomy in their offer, to examine the extent of using parts of experience economy to create authentic experiences among their tourists, as *well as to examine the connections of the mentioned restaurants to other stakeholders in the area in order to create a recognizable integral gastronomic tourist experience.*

***Key words**: gastro-tourism, Slavonia, experience economy, intangible heritage, destination management.*

SAŽETAK

Na globalnom turističkom tržištu zamjetan je porast interesa turista za autentičnim i novim doživljajima usko povezanima s lokalnom kulturom i načinom života u destinacijama koje posjećuju. Lokalna gastronomija, autohtona i prepoznatljiva jela i pića mogu biti izvrsna poveznica s ostalim elementima turističke ponude po kojoj određena destinacija može biti specifična, odnosno snažno sredstvo za pozicioniranje i podizanje konkurentskih prednosti. Jedan od bitnijih izazova ekonomije doživljaja kao novije ekonomske paradigme u okviru turističkog sektora je i način na koji se nematerijalna baština, kultura života i rada u kojoj kultura proizvodnje hrane ali i cjelokupnog doživljaja vezanog uz hranu ima istaknuto mjesto, može iskoristiti kao temelj za dizajniranje originalnih i konkurentnih turističkih doživljaja.Cilj ovoga rada je prikazati mogućnosti pozicioniranja Slavonije kao prepoznatljive gourment destinacije unutar hrvatskoga turističkog tržišta. Navedeno je temeljeno na porastu interesa turista za gastronomijom i s njom povezanih turističkih doživljaja kao bitnim motivom za posjetu turističkim destinacijama u Hrvatskoj što je pokazalo i najnovije istraživanje TOMAS ljeto 2017. Slavonija kao regija posjeduje iznimno bogatu turističku atrakcijsku osnovu vezanu uz gastronomiju i s njom povezanu nematerijalnu baštinu te predstavlja snažno ali još nedovoljno korišteno sredstvo za brendiranje i pozicioniranje regije kao lifestyle destinacije cjelogodišnjeg turizma. U svrhu ovoga rada provedeno je istraživanje među slavonskim županijskim turističkim zajednicama kako bi se ispitalo koliko se gastronomija i s njom povezani turistički doživljaji koriste kao motiv za brendiranje i pozicioniranje turističke ponude. Isto tako provedena je anketa među vlasnicima i voditeljima u deset restorana na spomenutom području s ciljem utvrđivanja činjenica koliko je lokalna gastronomija zastupljena u njihovoj ponudi, koriste li elemente ekonomije doživljaja pri zaokruživanju iskustva njihovih gostiju te koliko su povezani s ostalim dionicima u okruženju kako bi stvorili prepoznatljiv gastro turistički doživljaj.

***Ključne riječi:**gastroturizam, Slavonija, ekonomija doživljaja, nematerijalna baština, destinacijski menadžment.*

1. Introduction

Tourism, being one of the fastest-growing sectors on a global scale, faces new challenges on a daily basis – especially in terms of the tourist offer which needs to find its place in the field of tourism, i.e. fight its way in the market through the ever-growing competition. Destination management is therefore faced with the task of constantly following the trends in the tourism market and the task of raising the competitiveness. Tourist destinations cannot be passive; they must constantly adapt their offer (Ritchie and Crouch, 2003, 9), think of new ways of branding and positioning in the market, i.e. they must always identify the key characteristics within their tourist attraction base that can make them recognizable and different from other competitors (UNWTO/ETC 2009, 41; Morgan and Prichard, 2004,60). In order to successfully position the destination in the minds of the tourists, the tourist destinations management need to identify those key characteristics of the tourist offer, i.e. the brand identity that will stimulate clear and positive associations of the destination and encourage the desire to visit the destination (Ech, 2008, 61). Recent trends in the market of tourist demand show that the desire for new and authentic experiences, getting to know a new culture, unforgettable experiences and merging with the local community while vacationing nowadays prevail as tourists' motives for visiting a certain destination (Gaztelumendi, 2012, 10; Expedia, 2017, 12; IPSOS 2017, 19,; Tripadvisor 2017,14). Moreover, Munford (2017, 55) also states that the most common words in the clients' search of the Airbnb platform are the following three words: *"personalized", "authentic" and "local"*. Since gastronomy is commonly considered a very strong means of preserving the identity, customs and the culture of life of the local communities, it was precisely for that reason that it was recognized as quite a successful and strong means in raising the image and competitiveness of the tourist destination (Richards, 2012, 34). Slavonia is still insufficiently recognized as a tourist destination in the tourism market and it still records only minor tourist results. One of the reasons for that is doubtlessly the weak branding that could make the tourists identify and differentiate this region as different from other Croatian regions. The authors of this work strive to point to the fact that precisely the gastronomy and the intangible heritage connected to it can be integrative factors of all other components of the tourist offer and thus be a key factor in branding and positioning Slavonia as a desirable lifestyle destination that will attract tourists throughout the whole year.

2. Gastronomy as tourist attraction

Gastronomy and food and drink offer of tourist destinations were mostly seen as a common integral part of the tourist offer and were not given attention in terms of the strength that they can have as a means of promoting and positioning the destination. However, these views recently changed so gastronomy and *gastrotourism* connected to it – which Hall and Sharpless (2003, 10) define as "*as visitation to primary and secondary food producers, food festivals, restaurants and specific locations for which food tasting and/or experiencing the attributes of specialist food production region are the primary motivating factor for travel"* – have been recognized as a successful means of positioning and raising the competitive advantages of tourist destinations (Richards, 2002, 11, Dallen and Amos, 2013, 99). A great number of tourist destinations nowadays uses the gastronomy as a successful means of market communication and branding of their offers (Fields, 2002, 36). The examples of Italy and France but recently and more intensively also the example of Spain andFar East destinations such as Thailand can be taken as best examples of building the image of desirable lifestyle destinations through gastronomy as one of the main means for positioning the destination (Sharim A.K., and Geng-Quing Chi K., 2010, 531-555, Bessiere, 2013, 276, Ruiz de Lera, 2012, 116). The term lifestyle is used in tourism mostly to point to the special, authentic tourist experiences connected to the relaxed way of life that is completely different from the life in the permanent place of residence, as well as with consuming of quality products produced in the area of the destination, which were recognized in the market precisely due to their local features (Herrera, 2012, 8). The growth of interest for gastronomy as a tourist attraction with great potential lays, among others, in the fact that gastrotourists make up the segment of high payment capacity, as well as in the fact that gastrotourist experiences can easily be connected to other tourist attractions such as cultural and natural attractions (Hall, 2012, 50, according to Hall et.al. 2003., Hall and Sharples, 2008). The research of the potential of gastronomy as a tourist attraction requires the investment of a great amount of effort (Kušen, 2002, 12) in order to use precisely the special features that have a strong level of differentiation and that can thus contribute to the overall recognition of the tourist destination (UNWTO 2017,15).

2.1. Place of gastro tourism in global tourism market

With the rise of the competence in global tourist market, local and regional intangible heritage, including gastronomy, is becoming a highly significant means not only for attracting tourists, but also for creating recognizable and unique tourist experiences (UNWTO 2017, 15). As was already mentioned in the first UNWTO Report "1st Global Report on Gastronomy tourism" from 2012, 82% of the questioned stakeholders in the mentioned research consider gastronomy to be the strategic element for defining the image and the brand of their destinations (UNWTO 2012, 12). Moreover, according to the report "The Rise of Food Tourism"(OCTA and Skift 2015, 11), 67% of respondents from nine most emissive markets (USA, Canada, Germany, China, UK, France, Brazil, Korea, Australia) consider the gastronomy to be one of the most significant traits of the local culture. A similar trend which is connected to the motives of visiting the destination that was noticed in the global market, was also noted in Croatia over the past years. This fact can be corroborated by the TOMAS ljeto research that has been carried out systematically since 2004 by the Croatian Institute for Tourism. According to the mentioned research, the significance of gastronomy as one of the primary motives for visiting Croatia is growing constantly – since the first research (TOMAS ljeto 2007, 15) where gastronomy was examined as a motive for the first time, it was highlighted as the primary motive by 20% of the questioned tourists, up until the next research in 2010 (TOMAS ljeto 2010, 9), where the significance of gastronomy grew to 22%. In the next research from 2014 (TOMAS ljeto 2014, 5), gastronomy was highlighted as the motive for visiting by 26% of the questioned tourists, while the latest research (TOMAS ljeto 2017, 5) saw the gastronomy being highlighted as the primary motive for visiting Croatia by 29% of the questioned tourists. All of the mentioned facts point to the constant growth of tourists' interest for experiences connected to food and the culture and lifestyle of local communities which are connected to food and thus also to the exceptional potential of gastronomy as the resource for the development of tourism – mostly for tourist destinations that are still insufficiently developed, where gastronomy can become the main means for branding, creating unique integral tourist experiences as well as the link that connects all other tourist attractions of cultural and natural heritage.

3. Gastronomy and experience tourism

Considering the change in the preferences of "new" tourist, there was a clear shift of tourists' interest from the point where the tourists' most significant interest was defined through the syntax "I have to see" to the point where the syntax "I want to experience" became the most important experience while visiting a certain destination. One of the most significant challenges of the experience economy as a more recent economy paradigm and the tourist products connected to it lays precisely in the question of how to use the intangible heritage, local culture and lifestyle for designing creative and unique experiences of gastrotourism (Richards, 2012, 14). As the global competence is growing, it is becoming more difficult to remain competent in the market. In order to differentiate their products and achieve premium prices, as well as to point out that the guests are no longer willing to pay only for the basic service, but that they are willing to undergo additional costs only if they participate in the full experience connected to the use of service – in this case the gastrotourism service, the entrepreneurs need to enrich their basic products with experience elements that Pine and Gilmore (1999, 31) called the 4Es – Four Realms of Experience – Entertainment, Esthetic, Educational and Escapist. What became important in tourist destinations is the intangible, the atmosphere, creativity, lifestyle, and gastronomy is in this case highlighted since it presents one of the most significant elements when it comes to attracting tourists. Restaurants or any other catering tourist object do not need to possess any Michelin stars in order to attract the guests' attention. Local restaurants, inns or tasting facilities can become extremely competent in the tourism market if they provide the authentic gastrotourismexperience that enables the guests to fully immerse themselves in the atmosphere and the experience of food and other intangible elements connected to it, such as storytelling and taking part in the creation of their own experiences (Hawley, 2017, 50). By staying in facilities like these, the tourists not only participate in the authentic experience but also experience a new culture which is quite different from the one in their places of residence (Fields, 2002,38). These experiences also incite the tourists' interest for visiting other attractions in that area, they increase the awareness of the destination's authenticity as a place of pleasant environment and content-rich vacation, which thus makes the gastrotourism products the main holders of the recognition of the entire tourist destination.

4. Methodology

The authors of this paper conducted a survey among the representatives of five county tourist boards in Slavonia (Virovitica-Podravina County, Požega-Slavonia County, Brod-Posavina County, Vukovar-Srijem County and Osijek-Baranja County) in order to research the manner and the extent of using gastronomy and the tourist experiences connected to it as a means of branding and positioning of Slavonia. The survey was conducted throughout the month of February 2018 by means of an electronic questionnaire form that was sent to all directors of tourist boards. The questionnaire examined the following: *which means are used by tourist boards for promoting their destinations as destinations of gastrotourism and to what extent they are used; whether there are specialized gastrotourism promotional materials, thematic gastrotourismproducts, events and designed itineraries*. The second part of the survey was connected to examining the direct holders of the gastrotourism offer of the mentioned counties, for which purpose the authors designed a questionnaire that was sent electronically to eighteen restaurants, tourist agricultural farms and tasting facilities. The respondents were selected by the method of deliberate selection and were chosen by the authors after using the information available on the Web pages of the county tourist boards where the gastronomy offer is being advertised. The survey strived to examine their views about the extent of using gastronomy as a means of promoting of the destination, the fact of how they use the local gastronomy heritage in their own offer, and finally, which additional elements, and to what extent, are used to enrich the basic offer in order to create the full experience for their guests.

5. Results and interpretation of the research

While researching the views of the respondents from the tourist boards of the mentioned counties on the estimation of the impact of certain activities instrengthening the brand and positioning of their destination as destinations of gastrotourism, the authors have used a Likert-type scale where the grades from 1 to 5 expressed the following values: *1-no impact, 2-small impact, 3-medium impact, 4-big impact, 5-great impact.* All five tourist boards highlighted *„using the gastronomy product recognizable in the destination as a key brand, i.e. the key element and means of differentiation“*as the activity with a great impact on branding and positioning of the destination of gastro-tourism. Moreover, 80% of the respondents pointed out that *„establishing a system of quality and labeling of gastronomy products“* has a big impact, while 20% of the respondents highlighted that activity as the one with a great impact. The survey results show that *“integral connection of stakeholders and creation of a gastro-tourist value chain”* has a significantly big impact (40% of the respondents graded it with 4, while 60% of the respondents gave the grade 5), as well as *“organization of gastronomic events in the destination”* (20% - grade 3, 40% - grade 4 and 40% - grade 5). The activities with the lowest grade, i.e. the activities whose impact on branding and positioning of the destination was ranked the lowest are the following: *“organization of gastronomic workshops and presentation in emissive markets”* (60% - grade 2, 20% - grade 3, 20% grade 5), *“organization of gastronomic workshops and presentation in the destination”* (20% - grade 2, 40% - grade 3, 20% - grade 4 and 20% - grade 5), and *“organization of gastronomic events in emissive markets”* (40% - grade 2, 40% - grade 3 and 20% - grade 5). The question on the implementation of the above-mentioned activities by the tourist boards in their destinations yielded the following results which can be seen in Table 1 on the next page. Whileansweringthe question of *„how great is the importance of gastronomy for branding the tourist destinations in Slavonia?“*, 80% of the respondents answered that it is very important and 20% of the respondents noted that it is important. Each of the surveyed tourist boards have specialized promotional materials dedicated to the regional gastronomy, but only in paper form and in the form of part of a WEB page, while none of them possesses video materials or a mobile app specialized in gastro-tourism products. All of the surveyed destinations organize a certain form of gastrotourism tours and 60% also organize events with gastronomy but not as a main theme.

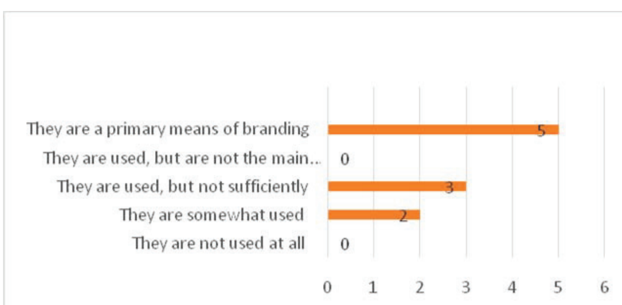
The second part of the survey was directed towards the direct holders of gastrotourist activities of the mentioned counties, which were selected amongst the ones that have a prominent place in the promotional materials that promote the gastronomic offer (WEB pages of counties’ tourist boards). Eighteen survey forms have been sent to the selected respondents and the authors received the response to ten of the sent survey forms, which makes up the respondence rate of 55%. The respondents' views on how gastronomy and the heritage connected to it are used as a means of promoting the destinations in which they operate can also be seen in Chart 1 on the following page.

Table 1 *Implementation of certain activities for strengthening the recognition of five Slavonian counties as destinations of gastrotourism*

Activities	Confirmative reply %	Negative reply %
Using gastronomy products recognizable in the destination as a key brand element and a means of differentiation	60	40
Organization of gastronomic events in the destination	40	60
Organization of gastronomic events in emissive markets	20	80
Organization of gastronomic workshops in the destination	60	40
Organization of gastronomic workshops in emissive markets	0	100
Integral connection of stakeholders and creation of a gastro-tourist value chain	20	80
Establishing a system of quality and labeling of gastronomy products	40	60

Source: Research of the authors

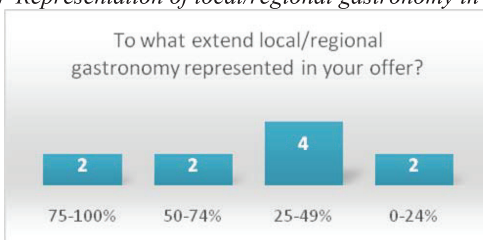
Chart 1 *Gastronomy and the heritage connected to gastronomy as a means of branding the destination in which you operate? (Answers of the questioned restaurant owners, tasting facility owners and agrotourism farm owners)*



Source: Research of the authors

One of the posed questions was whether the respondents cooperate with other stakeholders in the destination in order to enrich the destination offer, i.e. to make the gastrotourist experience more content-full for their guests. The greatest number of respondents, 80%, pointed that they cooperate with tourist boards that operate in the area, the additional 60% of the respondents claim that they cooperate with tourist agencies, 40% of them cooperate with local agricultural family farms, vine makers and traditional craftsmen, and 20% of the respondents claim that they do not cooperate at the moment, but plan to in the future. What is significant is the fact that none of the respondents asserted that they cooperate with other owners of tourist and catering facilities. Chart 2 on the next page shows the data on the extent of the representation of local/regional gastronomy in their offer. Considering the additional elements that could contribute to enriching the gastrotourist products in terms of the competent offer designed according to the principle of the experience economy, Chart 3 on the following page shows that the owners give most credit to esthetic and entertainment elements in the regular offer (traditional indoor design, tamburitza music and to some extent entertainment plays for their guests).Educational elements such as storytelling, gastronomic workshops and tours of the areas with visiting other attractions are represented to a smaller extent, i.e. only slightly more than a half of the owners organize these activities only on request of the visitors.The chart shows that escapist elements (the possibility of independently choosing groceries from the gardens, orchards, smoking facilities, taking part in the production or independent production of meals along with show cooking) are the least represented elements, but precisely these elements enable the guests to fully immerse themselves in the experience and they are the grounds for creating a unique and unforgettable gastronomic experience when combined with the remaining 4Es of the experience economy.

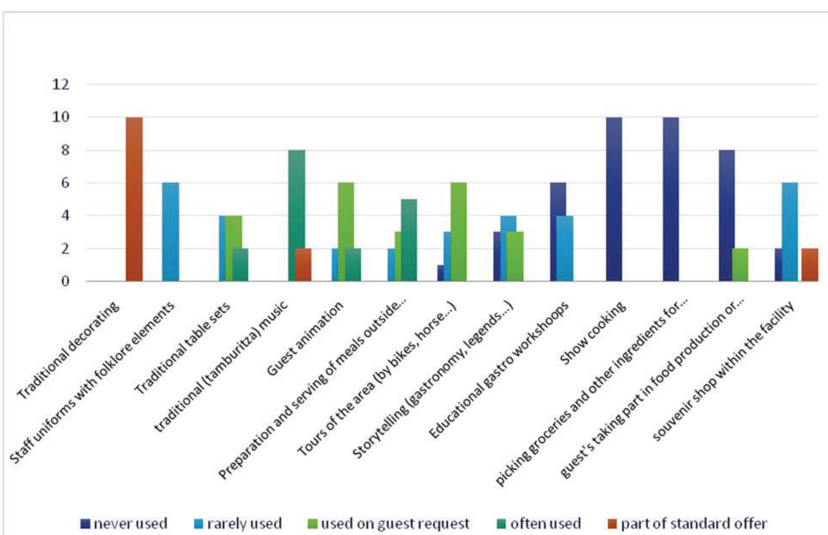
Chart 2 *Representation of local/regional gastronomy in the offer*



Source: Research of the authors

What is more, it can be seen that only two facilities operate a souvenir shop within their constant offer where the tourists can buy (or be given) certain reminders that can make the memories that they experienced in the destination last for a longer period of time.

Chart 3 *Additional elements used by the owners of catering facilities to enrich the gastronomic experience of their guests*



Source: Research of the authors

6. Final considerations

With Slavonia facing the negative trends of emigration, the trend of vanishing of traditional branches of economy and a downturn of rural areas, Slavonia needs to face the challenges of ending these negative social and economic trends. Tourism as a fundamental activity or else as an addition to the agricultural activity stands as one of the most successful means forending the mentioned trends as well as the means of raising the self-confidence of the inhabitants of this area and the re-awakening of their pride. Branding of Slavonia as the destination of gastro-tourism that promotes the openness and the generosity of Slavonian culture permeated with a relaxed lifestyle and experiences that capture all the guests' senses is the best way of promoting Slavonia's recognition and thus improving its standings in the Croatian tourism market. Based on the conducted research, we can conclude that gastronomy has been recognized as a strong means of branding Slavonia as a desirable tourist destination, especially by the holders of the destination management. However, we must also point that the activities that could introduce the potential markets to the particularities of the gastronomic heritage – such as presentations in emissive markets, organization of events with the gastronomy as a main theme or connecting all stakeholders in a unique gastrotourist value chain rounded up with standards and a recognizable system of quality – are still not represented sufficiently in the researched destinations. When direct holders of the gastrotourist offer are taken into consideration, it can be seen that their views are divided when it comes to the question of whether gastronomy is used as a main means of branding Slavonia. Due to the fact that 80% of the stakeholders claimed that they had cooperated with tourist boards, we can conclude that the joint efforts directed towards promoting the gastronomy as a key element of recognition are still not strong sufficient. Through the analysis of the data obtained through the survey – especially the data obtained from the owners of catering facilities – we can conclude that there is a need to improve the cooperation with the DMOs but also with other stakeholders, especially the local food producers and other owners of catering and tourist facilities by enriching the offer and creating a unique tourist products which would contribute to the development of gastrotourism and thus also to the competence of Slavonia as a recognizable tourist destination. What needs to be emphasized is that the owners of catering facilities need to put additional effort into rounding up the gastrotourist experiences for their guests in order to create a competent and recognizable product that would be a part of an unforgettable and unique experience that the guests can feel only in Slavonia, the Croatian region famous for its unique lifestyle that exudes some old, somewhat forgotten times.

REFERENCES

Bessière, J. (2013):***'Heritagisation', a challenge for tourism promotion and regional development: an example of food heritage***, Journal of Heritage Tourism, 8:4, pp. 275-291

Dallen J. T., Amos S. (2013***): Understanding heritage cuisines and tourism: identity, image, authenticity, and change***, Journal of Heritage Tourism, 8:2-3,pp. 99-104

EchF.R., (2008): ***Brandidentity: the guiding star for successful brand*** in Schmit B. Land Rogers D.L., ed.: Handbook on Brand and Experience Management, Edward Elgar Publishing Limited, Cheltenham, pp. 59- 71

Expedia Media Solutions (2017): ***European travel and tourism trends research-Travel habits, behaviors, and influencers of British, German, and French travellers***, pp. 12 https://info.advertising.expedia.com/european-travel-and-tourism-trends-for-german-british-french-travellers (accessed 19. September 2017.)

Fields, K (2002): ***Demand for the gastronomy tourism product: motivational factors*** in Hjalager, A., Richards, G. ed.:Tourism and gastronomy,Routledge, London, pp. 36-50

Gaztelumendi, I. (2012):***Global trend in food tourism*** in Jordan P. ed. World Tourism Organization, Global Report on Food Tourism, volume four, UNWTO Publishing, Madrid, p.p. 10

Hall , M. (2012): ***Boosting food and tourism-related regional economic development*** in OECD Food and tourism experience: The OECD-Korea Workshop, OECD Studies on Tourism, OECD Publishing, pp. 49-61

Hall, M.C. and Sharples, L. (2003): ***The consumption of experiences or the experience of consumption? An introduction to the tourism of taste*** in Hall, C. M., Cambourne, B., Sharples, L., Macionis, N., & Mitchell, R. ed. Food Tourism Around the World development, management and markets, Elsevier, Oxford, pp. 1-24

Hall, M.C., Mitchell, R., Sharples, L. (2003.):***Consuming places: the role of food, wine and tourism in regional development*** in Hall, C. M., Cambourne, B., Sharples, L., Macionis, N., & Mitchell, R. ed. Food Tourism Around the World development, management and markets, Elsevier, Oxfordpp. 25-59

Hawley, K (2017): ***Dining out is the main event*** in Ali R. ed. Skift Mega trends 2017 -. Defining the future of travel, Skift Magazine, avalable on https://skift.com/2017/01/12/the-megatrends-defining-travel-in-2017/pp. 50-52 (accessed 31.01.2017.)

Herrera, C.F. (2012): ***Gastronomy's importance in the development of tourism destinations in the world*** in Jordan P. ed. World Tourism Organization, Global Report on Food Tourism, UNWTO, Madrid, pp. 6-8

Institut za turizam (2018): ***TOMAS Ljeto 2017***, Microsoft Power Point Presentation, http://www.iztzg.hr/UserFiles/file/novosti/2018/TOMAS-Ljeto-prezentacija-2017-06_02_2018-FIN.pdf, pp.5. (accessed 25. January, 2018.)

Institut za turizam (2015): ***TOMAS Ljeto 2014***, Microsoft Power Point Presentation, http://www.iztzg.hr/UserFiles/Pdf/Tomas/Tomas-ljeto-2014-Prezentacija.pdf,pp.5. (accessed 25. January, 2018)

Institut za turizam (2011): ***TOMAS Ljeto 2010***, Microsoft Power Point Presentation, http://www.iztzg.hr/UserFiles/File/novosti/Tomas-Ljeto-2010-Prezentacija-HR-CROTOUR-23-03-2011.pdf, pp.9. (accessed 25. January, 2018.)

Institut za turizam (2008): ***TOMAS Ljeto 2007***, http://www.iztzg.hr/UserFiles/Pdf/Tomas/2007_Tomas-Ljeto_2007.pdf, pp.9.(accessed 25. January, 2018.)

IPSOS/EUROP AssistanceSurvey (2017): ***Summer Holiday Plans among Europeans and Americans 17th Edition***, https://www.ipsos.com/sites/default/files/2017-05/Ipsos_Europ_Assistance_Barometre-2017.pdf, pp. 19, (accessed 18. July 2017.)

Kušen, E (2002): ***Turistička atrakcijska osnova***, Institut za turizam, Zagreb

Morgan N., Prichard A. (2004): ***Meeting the destination branding challenge*** in: Morgan N., Prichard A. and Pride R. ed.: Destination branding: Creating the Unique Destination Proposition, Elsevier, Butterworth-Heinemann, Oxford, pp. 59-78.

Munford, R.B. (2017): ***Then ewluxury is defined by small brands with big stories*** in Ali R. ed. Skift Megatrends 2017 -. Defining the future of travel, Skift Magazine, available on https://skift.com/2017/01/12/the-megatrends-defining-travel-in-2017/, pp. 55 (accessed 31 January 2017)

Pine, B.J. II.; and Gilmore, J.H. (1999), ***The Experience Economy: Work is Theater and Every Business is a Stage***, Boston, Harvard Business School Press

Richards, G. (2012): ***An Overview of food and tourism trends and policies*** in OECD Food and tourism experience: The OECD-Korea Workshop, OECD Studies on Tourism, OECD Publishing, pp. 13-43

Richards, G. (2002): ***Gastronomy: an essential ingredient in tourism production and consumption?*** In Hjalager, A., Richards, G. ed.:Tourism and gastronomy, *Routledge, London*

Ritchie J.R.B. and Crouch G.I. (2003): ***The Competitive Destination - A Sustainable Tourism Perspective***, CABI Publishing, Wellingford,

Ruiz de Lera, E. (2012): ***Gastronomy as a factor in branding Spain*** in OECD Food and tourism experience: The OECD-Korea Workshop, OECD Studies on Tourism, OECD Publishing, pp. 115-122

Shahrim Ab Karim& Christina Geng-Qing Chi (2010) ***Culinary Tourism as a Destination Attraction: An Empirical Examination of Destinations' Food Image***, Journal of Hospitality Marketing & Management, 19:6, 531-555

Trip advisor (2017): ***Trip Barometer-Travel Trends 2016***., https://www.tripadvisor.com/TripAdvisorInsights/wp-content/uploads/2018/01/Global-Report-US-Travel-Trends-TripBarometer-2016.pdf, pp. 14(accessed 26. June 2017.)

The Ontario Culinary Tourism Alliance and Skift Team (2015): ***The Rise of Food Tourism***, http://skiftx.com/wp-content/uploads/2016/12/OCTA-Skift-The-Rise-of-Culinary-Tourism-2-1.pdf, pp.11 (accessed 27. February 2018.)

UNWTO/ETC (2009): ***A handbook on tourism destination branding with introduction by Simon Anholdt***, UNWTO/ETC, Madrid

World Tourism Organization (2017): ***UNWTO Gastronomy network action plan***, http://cf.cdn.unwto.org/sites/all/files/docpdf/gastronomyactionplanenweb.pdf (accessed 18.May 2017)

World Tourism Organization (2012), ***Global Report on Food Tourism***, UNWTO, Madrid

Filip Bartoluci, mag. oec.
City Council of Zagreb
Trg Stjepana Radića 1, 10000 Zagreb
Phone: 098/1607296
E-mail: filip.bartoluci@gmail.com

Zrinka Starešinić, mag. oec.
Hrvatske šume
Ulica kneza Branimira 1, 10000 Zagreb
Phone: 099/3299450
E-mail: zrinka.staresinic@mps.hr

ASSUMPTIONS OF SUSTAINABLE TOURISM DEVELOPMENT IN OSIJEK-BARANJA COUNTY

PRETPOSTAVKE ODRŽIVOG RAZVOJA TURIZMA OSJEČKO-BARANJSKE ŽUPANIJE

ABSTRACT

The purpose of this paper is to explore the possibilities of applying the principles of sustainable tourism development in Osijek-Baranja County. Rural tourism in Croatia is one of the least developed types of tourism, although rural area of Croatia occupies over 91% of the total territory of Croatia. Conducted research shows that continental tourism of Croatia is a proof that Croatia has a plenty of insufficient used tourist potentials and that Croatian tourist offer is not made up only of „sun and sea“, but is made up of so many different tourist attractions. In the last few years tourism of Osijek-Baranja County has been developing, so it is realy important to ensure sustainable development of tourism and other activities by applying all principles of sustainable development: ecological, socio-cultural, technological and especially economic ones. The offer of Osijek-Baranja County is made of some special tourist attractions like Kopački rit Nature Park, Lipizzaner Stable in Đakovo supported by state, Fortress of Osijek (Tvrđa), religious tourism in Aljmaš, homemade gastronomy of Baranja etc. This paper uses a desk research methodology in order to process secondary data sources and method of analysis and synthesis.

Key words: *Osijek-Baranja County, continental Croatia, sustainable tourism development, Osijek, gastronomy.*

SAŽETAK

Svrha i cilj ovog rada je istražiti mogućnosti primjene načela održivog razvoja turizma u Osječko-baranjskoj županiji. Ruralni turizam u Hrvatskoj je među najslabije razvijenim vrstama turizma, iako ruralni prostor Republike Hrvatske zauzima preko 91% ukupnog teritorija Hrvatske. Provedeno istraživanje pokazuje kako je kontinentalni turizam Hrvatske dokaz da Hrvatska posjeduje brojne nedovoljno iskorištene turističke potencijale te kako turističku ponudu Hrvatske ne čine samo sunce i more, nego i brojne druge turističke atrakcije. Turizam se u posljednjih nekoliko godina počeo intenzivno razvijati u Osječko-baranjskoj županiji, pa je stoga važno osigurati održivi razvoj turizma i ostalih djelatnosti primjenom svih načela održivog razvoja: ekoloških, sociokulturnih, tehnoloških te posebno ekonomskih načela. U sklopu turističke ponude Županije valja izdvojiti jedinstvene atrakcije poput: Parka prirode Kopački rit, Državne ergele lipicanaca u Đakovu, Osječke Tvrđe, *vjerskog turizma u Aljmašu, autohtone baranjske gastronomije i još mnogo toga što Županija nudi. U ovom radu korištena je metoda istraživanja za stolom (desk research) za obradu sekundarnih izvora podataka te metoda analize i sinteze.*

Ključne riječi: *Osječko-baranjska županija, kontinentalna Hrvatska, održivi razvoj turizma, Osijek, gastronomija.*

1. Introduction

The subject of this research is an analysis of current state of tourism in Osijek-Baranja County and concept of sustainable tourism development.Based on the conducted analysis of current state of tourism in Osijek-Baranja County, the purpose of this paper is to explore opportunities of sustainable tourism development in Osijek-Baranja County with special review of some tourist attractions in this County. Conducted research shows that this County has better tourist results each year in terms of tourist arrivals and overnight stays.In this way, Osijek-Baranja County is a proof that Croatia has a plenty of insufficiently used tourist potentials and that Croatian tourist offer is not made up only of „sun and sea“, but is made up of so many different tourist attractions. In the last few years tourism of Osijek-Baranja County has been developing, so it is realy important to enable sustainable development of tourism and other activities applying all principles of sustainable development: ecological, socio-cultural, technological and especially economic ones. Unfortunatelly, this part of Croatia has been neglected for many years in way of tourism developmentwhich led to the extreme seasonality of Croatian tourism and the exclusive orientation of the sun and the sea.According to the Statistical Yearbook (2016), rural tourism has less than 1% of accommodation capacity and generates about 1% of tourist consumption.[1]During the last few years this trend has been totally changed and now Osijek-Baranja County can offer numerous tourist attractions like Kopački rit Nature Park, Lipizzaner Stable in Đakovo supported by state, Fortress of Osijek (Tvrđa), religious tourism in Aljmaš, homemade gastronomy of Baranja etc.This paper uses a desk research methodology in order to process secondary data sources, method of analysis and synthesis and some graphic methods.Based on the research, there is a certain concept of sustainable tourism development which will be proposed in the area of Osijek-Baranja County.It is based on harmonized respect for ecological, socio-cultural, technological and especially economic principles of tourism.

2. The main features of the tourist offer of the Osijek-Baranja County

Osijek-Baranja County is situated in the Pannonian lowlands in the north-east of Croatia and it includes one part of Podunavlje and Podravlje. Situated on a fertile ground between the Sava River, the Drava River and the Danube, it is surrounded by a picturesque flatland, forests, gentle hills, ponds, watercourses and wetlands that give the region a recognizable and attractive tourist image. It includes seven cities: Osijek, Đakovo, Belišće, Našice, Valpovo, Donji Miholjac and Beli Manastir that are well-connected with other parts of Croatia.[2]A fact that Osijek-Baranja County includes one part of the river channel ″Rajna-Majna-Dunav″ is an additional comparative advantage. In this way, this County is well-connected by river traffic with other European towns.

The Osijek-Baranja County has its geographical features and belongs to the continental tourism group. Unfortunatelly, continental tourism in Croatia has been neglected for many years, but during the last few years it has been changing under the influence of events on the world tourism market.Tourism trends in the world are increasingly showing a change in the behavior of tourists

[1] Statistical Yearbook (2016) Information about rural tourism in Croatia, available on: https://www.dzs.hr/Hrv_Eng/ljetopis/2016/sljh2016.pdf (9th January 2018)
[2]Osijek-Baranja County, general information, 2018, available on: http://www.obz.hr (9th January 2018)

trying to experience as many different experiences as possible during their journey, so in the last decade there are more and more signs of interest for the so-called "cyclotourism", "ecotourism", "rural tourism", "rural tourism", "educational tourism", "adventure tourism" etc.[3]Environmental issues, sustainable development and diversity of supply in general have become extremely attractive factors in tourism. The tourism development as a force for regional economic development is really important for this County.[4]

Starting from the richness of natural and social resources, the Osijek-Baranja County develops various types of tourism such as rural, urban and health tourism.Various specific forms of tourism are developed within specific types of tourism: rural, gastronomic, wine, cultural, religious, sport-recreational, ecotourism and others.[5]The Osijek-Baranja County has the possibility of connecting different types and forms of tourism to the recognizable tourist offer of Slavonia and Baranja.

Nature park Kopački rit

One of the most famous tourist attractions in this County is Nature Park Kopački rit. It is situated in the far north-eastern part of the Croatia, so it is part of the wider geographical area of eastern Croatia.It is a flat part of the geographical unit of Baranja, predominantly lowland area between rivers Drava and Danube and the state border with the Republic of Hungary.It lies north of the River Drava from the Drava River in the Danube and upstream the Danube on its left and right bank. The Eastern border of the Nature Park was established by the State Border to the Republic of Serbia.[6]

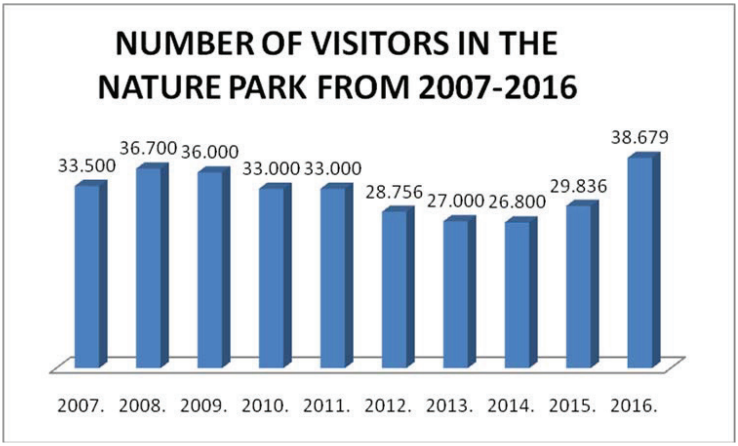
Due to its exceptional natural value, in 1993 Kopački rit was listed on the Ramsar area list.On this list, the areas are protected by the Convention on Wetland Areas of International Importance, especially as Wetland Habitats, which was signed in 1971 in Ramsar, Iran (so called Ramsar Convention).

Pursuant to this Convention, Croatia has been its full member since 1991, there are almost 1,700 areas covering more than 150 million hectares in the Ramsar List of the World until today.Apart from Ramsar, Kopački rit is also on the IBAs (Important Bird Areas) list.This program has been developed by BirdLife International (a global association for the protection of birds, their habitats and global biodiversity, which points to people in the direction of sustainable use of natural resources) to designate, monitor and protect the global network of areas that are important to habitats for birds and other biological diversity.Partners in this organization assume the responsibility for implementing programs at the national level. Since 2004, over 7,500 areas in over 170 countries have been listed on the IBAs list.[7]

The following graph shows the number of visitors to the Nature Park from 2007 to 2016, from which the following can be concluded.It is clear that the number of visitors began to fall with the outbreak of the economic crisis in 2009, so this trend continued until 2015 when the number of visitors began to increase due to better media coverage of the Nature Park and the introduction of new content (wooden walking paths to water). Because of this, the number of visitors in 2016 has peaked in the last few years and this trend should continue.

[3]The strategy of tourism development in Croatiauntil 2020, 2013, available on: https://narodne-novine.nn.hr/clanci/sluzbeni/2013_05_55_1119.html (9thJanuary 2018)
[4]Tourism of Osijek-Baranja County, general information, 2018, available on: http://www.tzosbarzup.hr/ (9th January 2018)
[5] Ružić, D.: „Rural tourism“, 2009, Agricultural Institution, Poreč, page 17
[6]Nature Park Kopački rit, general information, 2018, available on: https://pp-kopacki-rit.hr/ (9th January 2018)
[7]Nature Park Kopački rit (2018) Recognition of Nature Park, available on: https://pp-kopacki-rit.hr/ (9th January 2018)

Graph 1 *Number of visitors in the nature park from 2007 – 2016*



Source: Information on the state and development possibilities of tourism in the area of Osijek-Baranja County and the work of the County Tourist Board, (2017), available on: file:///F:/OSIJEK/2018/08_informacija_o_stanju_i_razvojnim_mogucnostima_turizma_na_podrucju_obz_i_radu_turisticke_zajednice_zupanije.pdf (9th January 2018)[8]

Most visitors of this nature park are excursionists (one-day visitors) who do not realise overnight stays in the area of Kopački rit.Most of them are domestic guests that come from nearby towns (Osijek, Valpovo, Belišće, Vinkovci, Vukovar, Ilok, Našice etc.).When it comes to foreign guests, most of them are tourists staying in Osijek and other cities of Slavonia and Baranja.In order to attract a larger number of stationary visitors to Kopački rit, it is necessary to expand the facilities of accommodation facilities whose offer is still insufficient compared to the demand.

This is confirmed by examples of good practice in the field of rural tourism in Slavonia and Baranja (Winery Josić in Zmajevac, Baranja House in Karanac, Kneževi Vinogradi etc.).[9]This can be a signpost for other entrepreneurs in tourism in Slavonia and Baranya.

Lipizzaner Stable in Đakovo supported by state

Lipizzaner Stable in Đakovo supported by state was established in 1506 which is among the oldest in Europe and shows the long tradition of horse breeding, which represents an invaluable value and importance for the city of Đakovo, Slavonia and the entire Republic of Croatia.

The horses of the Lipizzaner breed at this stable began to grow in the 19th century. Today, as the National Stable of Đakovo, there are two places which are used for horse breeding - Pastuharna (located in the heart of Đakovo) and Ivandvor (near the town).Apart from breeding and selection, Stable also deals with a horseracing of horses whose quality is confirmed at numerous competitions in the country and abroad.In addition to its core activity to preserve the genetic potential of the Lipizzaner breed, the tourism activity of the Stable is of great importance because of its

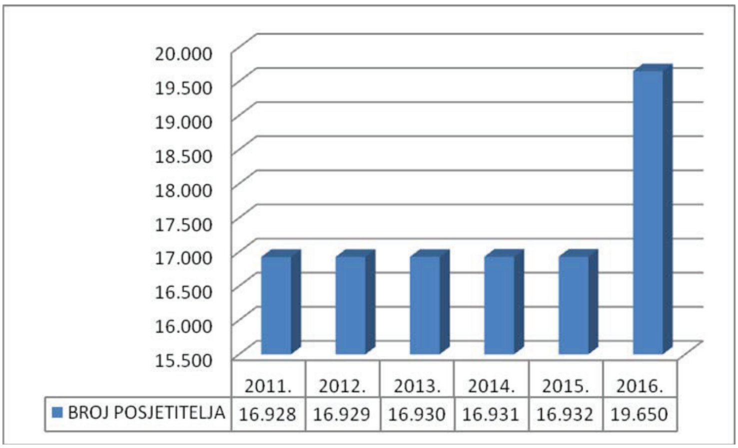
[8]Information on the state and development possibilities of tourism in the area of Osijek-Baranja County and the work of the County Tourist Board, (2017), available on: file:///F:/OSIJEK/2018/08_informacija_o_stanju_i_razvojnim_mogucnostima_turizma_na_podrucju_obz_i_radu_turisticke_zajednice_zupanije.pdf (9th January 2018)

[9]Kesar, O. (2011) "Specific forms of tourism“, curriculum for lectures on the course Specific forms of tourism at the Faculty of Economics and Business in Zagreb, page 66

attractiveness. So it has become an inevitable destination for tourist visits to Đakovo, Slavonia and Croatia.[10]

The following graph shows the number of visitors ofStable in the period from 2011 to 2016, from which the following can be concluded. The number of visitors by 2015 was at an equal level until 2016, when it grew to 19,650 visitors per year.

***Graph 2** Number of visitors in Stable from 2011 - 2016*



Source: Information on the state and development possibilities of tourism in the area of Osijek-Baranja County and the work of the County Tourist Board, (2017), available on:file:///F:/OSIJEK/2018/08_informacija_o_stanju_i_razvojnim_mogucnostima_turizma_na_podrucju_obz_i_radu_turisticke_zajednice_zupanije.pdf (9th January 2018)[11]

According to information of Stable, most visitors are excursionists (one-day visitors) and only a small part of tourists. Given the wealth of diverse Stable content, a variety of accommodation facilities should be developed to attract a large number of stationary guests.

3. The application of the principle of sustainable development in tourism of Osijek-Baranja County

Sustainable development can be defined as a change in the structure of global production and consumption that does not hinder ecosystems. There is practically no activity that does not affect sustainable development. There are three basic principles of sustainable development - ecological, socio-cultural and economic sustainability.[12]

Ecological sustainability implies a development that is consistent with the maintenance of ecological processes, biological diversity and resources. Since natural resources and the environment are the

---

[10]Lipizzaner Stable in Đakovo supported by state, (2018), general information, available on: http://ergela-djakovo.hr/hr/o-ergeli/ (9thJanuary 2018)

[11]Information on the state and development possibilities of tourism in the area of Osijek-Baranja County and the work of the County Tourist Board, (2017), available on: file:///F:/OSIJEK/2018/08_informacija_o_stanju_i_razvojnim_mogucnostima_turizma_na_podrucju_obz_i_radu_turisticke_zajednice_zupanije.pdf (9thJanuary 2018)

[12] Bartoluci, M. (2011.) Planning and sustainable tourism development, in: Čavlek, N. et. al., "Tourism-economic basis and organizational system", Školska knjiga, Zagreb, page 415

foundation of tourism development, the key objective of this principle is long-term ecological sustainability.[13]

Socio-cultural sustainability is a fusion of social and cultural functions of tourism which, by common action, contribute to bringing together and connecting people through different cultural, social, political and other values. The cultural function of tourism is particularly manifested by the influence of tourism-receptive countries towards domestic and foreign visitors.[14]

Economic sustainability is based on "economically-efficient development that implies optimal resource management so that future generations can be used by them".Economic sustainability must contribute to all the participants in space to ensure high quality of life in the present and the future.[15]The economic growth of any society is one of the main assumptions of its overall development. Economic sustainability of tourism is based on attractive and sustainable tourism resources. The assumptions for the economic viability of the tourist destination are conditioned by the cooperation of all stakeholders involved in the process of implementing sustainable development criteria in the destination and have the most significant impact on sustainable tourism development.[16]

Different stakeholders in a tourist destination should develop tourism through harmonized principles of sustainable development. However, in practice, it is often the case that the most ecological principles of sustainable tourism development and even in protected areas are most endangered.As a result, there are different interests of individuals and business entities. Their interest, lead exclusively by profit and earning, leads to excessive construction, exploitation and degradation of attractive natural sites, which can endanger the long-term sustainability of tourism in the area.

The main assumptions of sustainable tourism development in Nature Park Kopački rit and Đakovo Stable will be analysed below.

Kopački rit Nature Park belongs to the most attractive natural resources for the development of tourism in continental Croatia.As shown in the second chapter of this paper, Nature Park Kopački rit possesses a unique plant and animal world. Ecological values of natural resources are unique not only in the Slavonia and Baranja regions, but also throughout Croatia.This unique natural phenomenon with an abundance of flora and fauna attracts many domestic and foreign visitors. Especially suitable for studying plant and animal life. That's why this Nature Park is visited by an increasing number of visitors: children, students, scientists and excursionists.Visitors to the Nature Park are mostly excursionists staying in the Park one day. They usually come from surrounding towns and places. This is because Kopački rit does not have adequate accommodation capacity for tourist accommodation.For the more intense development of tourism, especially stationary guests, it is necessary to build accommodation capacities to allow visitors to stay more days in this destination. This could also be achieved by the economic principles of sustainable development, as tourists with their multi-day stay and tourist spending enabled profitable business to different business entities.

With regard to the ecological sustainability of the Kopački rit nature park, the Nature Park Management should take care of the number of visitors allowed at the same time, better control of

[13] Bartoluci, M. (2013)Managing the Development of Tourism and Entrepreneurship, Školska knjiga, Zagreb, page 133
[14]Ibidem, page 135
[15]Ibidem, page 137
[16]Krajinović, V. (2015),Discussing key challenges in measuring sustainable tourism development, Acta turistica (27), No. 1, Faculty of Economics and Business, University of Zagreb, page 69

flora and fauna habitats and introduction of visitor behavior rules (proper waste disposal, animal restraint ban, etc.).

By introducing additional content, the Nature Park would contribute to socio-cultural and economic sustainability. In this way, the Nature Park would give new potential to the tourist development of the County and encourage other tourist workers to a certain form of tourism cooperation.

Lipizzaner Stable in Đakovo supported by stateis one of the most popular tourist attractions of the Osijek-Baranja County, but also of the entire continental Croatia. Ergela has an extremely important role in the preservation of horse breed Lipizzaner due to the extremely favorable environment for horses. That's why this destination has extremely valuable nature resources that attract more and more visitors every year.

However, most of the people visiting Ergel are non-day visitors (visit to the Đakovo cathedral and Ergeli), so it is necessary to introduce some additional contents into the Đakovo tourist offer and to increase and improve the accommodation capacities. This would greatly contribute to the economic principle of sustainable development in a way that tourism consumption is driven by other business entities.

Tourism workers could join in the following way. One of the best ways to connect and merge business entities in tourism in Slavonia and Baranja could be Slavonia and Baranya cluster. The concept of cluster theory emerged at the end of the 20th century, whose author is Michael Porter.[17]The purpose of cluster is built on its competitive advantages on the principles of partnership relations. The cluster leader in tourism is most often a tourist destination, which in this case can be the Osijek-Baranja County.In the case of the Osijek-Baranja County, it is possible to use a vertical cluster that is the connection of economic entities from the field of tourism and related activities in the area where the value chain can be formed. It is thus possible to link a variety of hotel, catering, accommodation facilities, as well as other attractive facilities such as Stable in Đakovo.[18]In addition to this linkage, it is possible to collaborate within clusters of different economic entities in tourism, for example food producers, wine growers and winegrowers, restaurants, etc. This could create an integrated tourist product of the County that could become recognisable not only domestically but also foreign tourism market and achieve much more significant economic effects in the long run.Tourist Agencies could agree on special tourist arrangements that were made in the form of several days stay of tourists in Osijek-Baranja County. In cooperation with the owners of accommodation capacities, tourists would have the advantage of cheaper accommodation in accommodation facilities (longer stay → lower prices for each subsequent night) through the agency. Such arrangements would include Stable in Đakovo, Kopački rit, Osječka Tvrđa, Baranja catering facilities and so on.

The foundation for the sustainable development of attractive content in tourism such as Stable in Đakovo is ecological, socio-cultural and economic sustainability. Due to its multi-century tradition, the preservation and development of Stable is linked to the preservation of plant and animal life.The main role in this is the breeders of horses who have preserved and breeded special breeds of horse breeds, such as the Lipizzans known throughout the world, through the centuries-old tradition. This is a remarkable relationship between man and animal life that has a special ecological, socio-cultural and economic value. It is estimated that it is possible, by connecting to the cluster of different business entities, to ensure the long-term economic viability of the highly attractive Stable content.

---

[17] Petrić, L.: „Managing the tourist destination“, Faculty of Economics and Business, University of Split, 2011, page 202
[18] Bartoluci, M.: „Managing the Development of Tourism and Entrepreneurship“, 2013, Školska knjiga, Zagreb, page 174

4. Conclusion

The aim of this paper was to present the current tourist offer of the Osijek-Baranja County and to make certain suggestions for its improvement, respecting all the criteria of sustainable development.

Research has shown that rural tourism in Croatia is among the least developed types of tourism, although the rural area of the Republic of Croatia occupies over 91% of the total territory of Croatia. Continental tourism in Croatia is a proof that Croatia has many under-utilised tourist potentials and that Croatia's tourist offer is not only sun and sea, but also a number of other tourist attractions.Tourism has been developing intensively in the Osijek-Baranja County in recent years, so it is important to ensure the sustainable development of tourism and other activities by applying all principles of sustainable development: ecological, socio-cultural, technological and especially economic principles.

Unfortunately, this part of Croatia has for years been neglected to stimulate tourism development, which has led to the extreme seasonality of Croatian tourism and its exclusive orientation to the sun and the sea. However, in recent years this trend has changed so that the Osijek-Baranja County offers numerous tourist facilities today, including the Kopački rit Nature Park, the Lipizzaner Stable in Đakovo supported by state, Osječka Tvrđa, religious tourism in Aljmaš, indigenous gastronomy of Baranja and much more.

In order to achieve sustainable development of tourism in this county, the paper presents proposals for the sustainable development of tourism for Kopački rit and the stable of Lipizzaner in Đakovo. Given the fact that most visitors to this destination are tourists (one-day visitors who do not spend the night), it is necessary to build new ones and perfect the existing accommodation capacities for the purpose of overnight stays.

Tourism workers (caterers, owners of accommodation capacities, tourist agencies) could associate a certain cluster form. In this way, they could form an integrated tourist product and achieve much more significant economic effects. The proposed vertical cluster model could more fully economically valorize the tourist offer of the whole county and ensure long-term economic sustainability.

REFERENCES

Bartoluci, M. (2011), ***Planning and sustainable tourism development***, in: Čavlek, N. et. al., "Tourism-economic basis and organizational system", Školska knjiga, Zagreb

Bartoluci, M. (2013), ***Managing the Development of Tourism and Entrepreneurship***, Školska knjiga, Zagreb

Kesar, O. (2011), ***Specific forms of tourism***, curriculum for lectures on the course Specific forms of tourism at the Faculty of Economics and Business in Zagreb

Krajinović, V. (2015), ***Discussing key challenges in measuring sustainable tourism development***, Acta turistica (27), No. 1, Faculty of Economics and Business, University of Zagreb

Petrić, L. (2011), ***Managing the tourist destination***, Faculty of Economics and Business, University of Split

Ružić, D.(2009), ***Rural tourism***, Agricultural Institution, Poreč

Internet sources:

Information on the state and development possibilities of tourism in the area of Osijek-Baranja County and the work of the County Tourist Board, (2017), available on: file:///F:/OSIJEK/2018/08_informacija_o_stanju_i_razvojnim_mogucnostima_turizma_na_podrucju_obz_i_radu_turisticke_zajednice_zupanije.pdf (9th January 2018)

Information on the state and development possibilities of tourism in the area of Osijek-Baranja County and the work of the County Tourist Board, (2017), available on: file:///F:/OSIJEK/2018/08_informacija_o_stanju_i_razvojnim_mogucnostima_turizma_na_podrucju_obz_i_radu_turisticke_zajednice_zupanije.pdf (9th January 2018)

Lipizzaner Stable in Đakovo supported by state, (2018), general information, available on: http://ergela-djakovo.hr/hr/o-ergeli/ (9th January 2018)

Nature Park Kopački rit (2018) Recognition of Nature Park, available on: https://pp-kopacki-rit.hr/ (9th January 2018)

Nature Park Kopački rit, general information, 2018, available on: https://pp-kopacki-rit.hr/ (9th January 2018)

Osijek-Baranja County, general information, 2018, available on: http://www.obz.hr (9th January 2018)

Statistical Yearbook (2016) Information about rural tourism in Croatia, available on: https://www.dzs.hr/Hrv_Eng/ljetopis/2016/sljh2016.pdf (9th January 2018)

The strategy of tourism development in Croatia until 2020, 2013, available on: https://narodne-novine.nn.hr/clanci/sluzbeni/2013_05_55_1119.html (9th January 2018)

Tourism of Osijek-Baranja County, general information, 2018, available on: http://www.tzosbarzup.hr/ (9th January 2018)

Ivana Bestvina Bukvić, Ph. D., Asst. Prof.
Josip Juraj Strossmayer University of Osijek
Department of Cultural studies
Trg Sv. Trojstva 3, HR-31 000, Osijek
Phone: 00 385 31 224 269
E-mail address: ibbukvic@kulturologija.unios.hr

IMPACT OF BUSINESS ENVIRONMENT ON THE DEVELOPMENT OF REGIONAL IT SECTOR: CASE EASTERN CROATIA

UTJECAJ POSLOVNOG OKRUŽENJA NA RAZVOJ REGIONALNOG IT SEKTORA: SLUČAJ ISTOČNE HRVATSKE

ABSTRACT

The Information technology sector (IT) is one of the most important economic sectors by its contribution to the operational efficiency of all other industries and consequently to the overall economy. There is no other business activity that equally affects the development of all spheres of society, business sector and public administration. As well, this sector was one of the few in the course of the last economic crisis, which did not have a strong decline of the business revenues and employment. However, despite the above, the publications on the Croatia IT sector emphasized the existing obstacles to the continuation of its progressive development. Some of those are non-stimulating business environment, the inflexibility of the education system (resulting in the inadequate supply of skilled labour), the low level of available financial supports utilization, the absence of double taxation agreements with some of the largest world markets etc.
The aim of this paper is to determine the impacts of the existing business environment on the regional IT sector performance, measured by selected financial indicators. Therefore, this paper presents the review of relevant literature and the results of the financial analysis of the largest IT companies of Eastern Croatia (that includes 62 and 63 codes of NACE classification) for the period 2012 to 2016. In accordance with stated above, the research comprises financial and statistical analysis of selected financial indicators including variations of business revenues, EBITD, EBITDA, NPM, CapEx, NIPE, RoA, total assets horizontal analysis, etc. The research gave the insight of the development trends of regional IT sector and insight of possible development obstacles, which can in the future be the basis for designing the recommendations for policy-makers.

Key words: *regional IT sector performance, financial analysis, financial indicators, regional IT sector development obstacles, investments.*

SAŽETAK

Sektor informacijsko-komunikacijskih tehnologija (IT) je zbog svog doprinosa operativnoj efikasnosti svih ostalih sektora i posljedično cjelokupne ekonomije jedan od najznačajnijih ekonomskih sektora. Ne postoji niti jedna poslovna aktivnost koja na jednak način utječe na razvoj svih područja društva, poslovnog okruženja ali i javne uprave. Također, ovaj je sektor jedan od rijetkih koji u posljednjoj ekonomskoj krizi nisu ostvarili značajan pad poslovnih poslovnih prihoda i zaposlenosti. Ipak, unatoč gore navedenom, publikacije o hrvatskom IT sektoru ističu postojanje ograničenja nastavku njegova progresivnog rasta. Neke od ovih prepreka su nestimulirajuće

This paper and presented results are part of a scientific research project "Preconditions for the development of regional ICT sectors" (IZIP-2016-116), positively reviewed by the Josip Juraj Strossmayer University of Osijek on 20th March 2017.

poslovno okruženje, nefleksibilnost obrazovnog sustava (rezultirajući nedovoljnom ponudom kvalificiranog kadra), niskom razinom korištenja financijskih potpora, nepostojanje ugovora izbjegavanja dvostrukog oporezivanja s nekim od najvećih svjetskih tržišta itd.
Cilj ovog rada je utvrditi utjecaj postojećeg poslovnog okruženja na poslovanje regionalnog IT sektora, mjereno odabranim financijskim pokazateljima. Pritom ovaj rad daje pregled relevantne literature te prezentira rezultate financijske analize najvećih IT tvrtki Istočne Hrvatske (koja uključuje djelatnosti registrirane pod šiframa 62 i 63 NKD klasifikacije) za razdoblje od 2012. do 2016. godine. U skladu s gore navedenim, istraživanje obuhvaća provedenu financijsku i statističku analizu odabranih financijskih pokazatelja, uključujući varijacije poslovnih prihoda, EBIT, EBITDA, NPM, CapEx, NIPE, RoA, horizontalnu analizu ukupne imovine itd. Ovo istraživanje daje uvid u razvojne trendove regionalnog IT sektora i njegove moguće razvojne prepreke, što u budućnosti može biti osnova za izradu preporuka za kreatore javnih politika.

Ključne riječi: *uspješnost poslovanja IT sektora regije, financijska analiza, financijski indikatori, prepreke razvoja regionalnog IT sektora, investicije.*

1. Introduction

The Information technology (IT) sector is one of the most propulsive sectors in Croatia with 25 thous. employees in 2016 (that is growth by 27% in last 5 years) and 19 bn. HRK revenues (38% of growth from 2011). (HGK, Information technology association, 2017; Starčić, B., 2017). Although the ICT sector in Croatia still hasn't reached its full development potential, its relevance for fostering economic growth and business innovation from a global perspective, is already confirmed (Grajek 2012; Roland Berger/BDI, 2015; Link, Quereshi, 2017). Therefore, it is of interest of every society to foster its development and inclusion into the development processes of other economic sectors. Nevertheless, similar to companies in all economic sectors, IT companies are facing specific circumstances that are challenging the continuation of sectors growth dynamics.
The European reports are indicating that in Croatia there is a wide space for IT sector development. By DII index (Digital Intensity Index) that measures the availability of 12 different digital technologies at firm level in 2016, Croatia is at the lower half of the EU countries. As Croatia's economy is still trying to reach the developed EU countries, the gap between the usage of ICT technology and development of business sector (i.e. ICT seles market) in developed EU countries and Croatia, is still wide. Therefore, on the internal market, the state sector remains the largest buyer of IT services and products. As well, although the results of individual companies are impressive, in terms of the national economy the share of IT sector in national GDP is still modest. As to the total revenue achieved at s regional level, all regions are lacking behind the capital city, Zagreb. Consequently, the ICT associations are expecting the more favourable government measures "… from the state we expect the acceleration of the digital transformation process, including the strengthening of educational capacities for the ICT sector. Without the more active and faster role of the state, the ICT sector will continue to be most dependent on itself, investing and developing itself that is not good for the state as a whole as it has to, like the rest of the world, use ICT more, better and faster to reach its development potential." (Drilo according to Hina, 2017, n.p.)
The aim of this paper is to analyse the growth limitation factors and to determine the impacts of the existing business environment on the regional IT companies' financial performance during the last five years, measured by selected financial indicators. Therefore, in its first part the paper gives the analysis of the growth constraints that the IT firms are facing in their direct business environment that could in the future continue to influence its growth dynamics. In the second part it gives the results of the development analysis of the largest IT firms in Eastern Croatia in the period of 2012 to 2016, where the research comprises financial and statistical analysis of selected financial indicators including variations of business revenues, EBITDA, net profit margin, CapEx, Net

Income per employee, RoA and total assets horizontal analysis. Last part of the paper, summarizes the research results and gives the recommendations for the future research.
This paper is giving the insight of the development trends of regional IT sector and insight of possible development limitations, which can be in the future the input for designing the recommendations for policy-makers.

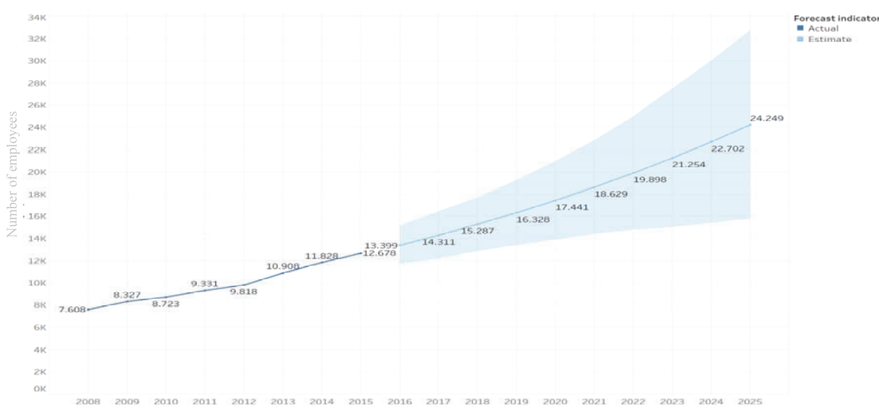
2. The IT industry analysis an literature review

Research conducted by Croatian Chamber of Economy on development of the IT industry (including only NACE J62) in the Osijek-Baranya county states that in 2015 there is a rise of the number of companies for 95% in comparison to 2008, the last pre-crises year. (HGK 2016) Contribution to this growth trend, among others, certainly belongs to the: Faculty of Electrical Engineering, Computer Science and Information Technology Osijek - in educating the IT sector employees, Siemens group - which 2004 opened its office in Osijek where some of today IT companies owners have found their first employment, BIOS - provider of start-up co-working space and Osijek Software City (OSC) - association that promotes developers' profession, competitiveness of Osijek's developers companies and entrepreneurship in IT sector.
Although the IT sector in this region records continuous growth it is now facing some growth limitations that can be divided to macroeconomic environment and regulation at the one side and microeconomic factor at the other. Some of the macroeconomic environment and regulation factors have been identified in previous publications (Žitnik, 2015; Vallejo, 2014, Western Balkan Countries INCO-NET, 2014, Balen, 2017, European commission, 2017, etc.), including following

- It has been found that "there is a strong correlation between GDP trends and IT results" (Žitnik, 2015, p.6) where it can be stated that the consumption of IT sector services is growing faster than overall economy in the times of the economic growth. On the other hand, although IT services and goods became the integral part of everyday life they can still, to some part, be considered as luxury goods. This means that in the times of economic stagnation the weakening of economic power strongly influences the sales in IT industry, which can be devastating for the SMEs. Furthermore, by Žitnik (2015) there are spontaneous technological changes that occur in the waves as well as the risk of organization overload in the times of strong economic growth, which can strongly influence the business models of IT firms, and face them with the need for structural changes.
- The influence of the organizational-institutional framework is also highly significant for IT sector. This can be described as "…the ability of the country to influence its informatization and IT consumption through its deliberate action (industrial policy) and by the establishment of the institutional frameworks, depending on the capacity of the governing body, i.e. the knowledge and will of the ruling elite and business culture (if corruptive public law, legal uncertainty and non-payments are the practice, companies will adapt to such situation)." (Žitnik, 2015, p. 6)
- Although there is a significant share of export in the IT revenues, it cannot be unnoticed that the state and the companies in its ownership are having significant contribution (approx. 40%) in the domestic IT companies revenues, (Žitnik, 2015, 6) where the state certainly by its future digitalization dynamics can influence the sectors revenues. Even though the informatics consumption is characterized by a relatively high elasticity, which means that a small increase in income on the state level means its disproportionately higher growth (Žitnik, 2015,14), the overall economy strength and employment growth is still at the inadequate level that it could support the continuous growth of the IT sector products market. Although the market of business and private consumers is developing, it will not be able to replace in full the possible stagnation of the state digitalization and informatization spending. (European commission, 2017) "The adoption of digital technologies varies strongly with company size. Large enterprises have a scale advantage and more capacity to employ at least some IT/ICT specialists." (European commission, 2017, p. 6)

- “All in spite of obvious comparative advantages (geography, climate, infrastructure, well-educated labor force (good education system), business culture, English speaking culture, close ties with Germany and Austria)” (Žitnik, 2015, 7), some of the obstacles that are affecting the Croatia's lack of investment attractiveness are in general: non-incentive business environment (legal insecurity, inefficient judiciary and administration, tax discipline and complex regulations, competition of neighboring countries, brain drain, lack of IT research infrastructure, lack of double taxation agreements with some of the largest world markets such as the USA, China, Australia etc.) (Žitnik, 2015; Vallejo, 2014; Western Balkan Countries INCO-NET, 2014) Nevertheless, the Croatian government is trying to attract some of the ICT companies by adopting its policies (for example tax benefits in the case of employment of Croatian employees, better conditions for building land purchase etc.) and the activities of Agency for foreign investments that are actively participating in the negotiations and definition of investor’s benefits. (Vallejo, 2014)
- One of the most relevant issues for future development of IT companies is the lack of adequate professional staff and therefore the sector seeks to tailor high schools and universities Curriculum to the needs of IT market i.e. for the future employees to gain the knowledge and competencies that IT companies expect and need. It is expected that the need of IT sector for the skilled workforce will continue to grow. Balen (2017) presented the simulation of growth expressed in number of employees where it was stated that to year 2025 number of employees in IT sector could rise to more than 30 thous. in dependence of the business environment and development of the sector.

Figure 1 *Simulation of growth of employment in Croatian IT sector to 2025*



Source: Balen. H. (2017) ICT sector 2008 – 2016, p. 20

- There is a need for increase of number and space of facilities where existing and start-up IT companies would be located with the aim of better networking and at the same time gaining the ability to educate their staff for specific jobs.
- IT companies are generally not competitive when it comes to off-shore customized IT services such as large-scale programming and large complex projects as they are limited with relatively high domestic costs combined with overpriced national currency, and the lack of the staff. At the other hand Croatian ICT sector has found its competitive niche in the smaller but highly professional specific projects that the companies are running independently or as sub-leagues of larger foreign players. (Žitnik, 2015, p. 14) In this race with the highly developed countries the Croatian advantage comes from the price competitiveness and highly skilled working force more committed to work.

- There is the low level of available financial supports utilization, especially the government and EU grants, mostly due to lack of understanding, complexity and durability of the approval procedures (application and rating) that can be considered as missed opportunities.

It can be summarized that the IT is influenced by the economy and its cycles, policies and institutional frames (Žitnik, 2015) activities of the state in creating and promoting investment opportunities, and the ability of the IT sector firms to explore and utilize all the opportunities in financing of their future development phases. The next part of the paper presents the results of the Eastern Croatia IT sector development in the last 5 years.

3. Methodology and the limitations of the research

Research of existing business environment on the regional IT sector performance was conducted on the sample of largest IT companies of Eastern Croatia by criteria of level of revenue in 2016. The research covered the IT companies with registered business activity in 62 or 63 codes of NACE 2007 in five Eastern Croatia counties (Vukovar-Srijem, Osijek-Baranja, Brod-Posavina, Pozega-Slavonia and Virovitica-Podravina).

Limitations of the research mainly refer on the lack of the official statistical data for IT sector, as the existing ones published by the Croatian Bureau of Statistics and numerous other publications include joint results, for the NACE J-information communication not giving the analytics of sub-activities. This is of relevance as there are significant differences in sectoral characteristics of the information (IT) and communication (media, telecommunication etc.) businesses on the management level and strength of environmental influence. (Bestvina Bukvić et al., 2016) For that reason, the statistical information that could be of use in this research and give the information on the significance of IT sector in comparison to all other industry sectors was not included. The conclusions in this paper were based on the financial indicators of the selected companies and the secondary information based on the published interviews and the statements of the IT sector actors. The future research should include focus groups and in-depth interviews with the experts and relevant industry actors and a comprehensive analysis of the IT companies' financial performance through the last decade.

3.1. Sample description

As the aim of the research was to analyse the regional IT sector development dynamics and the limitations, the research was carried on companies that have met the following conditions:

- achieved more than 1.000 thous. HRK of revenue in 2016,
- registered in one of the following NACE codes j62 - Computer programming, consultancy and related activities or 63 - Information service activities
- company registered in the Eastern Croatia that includes following counties: Vukovar-Srijem, Osijek-Baranja, Brod-Posavina, Pozega-Slavonia and Virovitica-Podravina.

The sample selection was carried using information collected from Financial Agency (Fina) data base, while the annual financial reports of the IT companies for the period 2012 to 2016 were taken from Boniteti.hr and Poslovna.hr data bases. Although there are 230 registered companies (2016) in the analysed geographical area, only 19.6% (45 companies) achieved more than 1.000 thous. in 2016.
The frequency of the sample is presented by the Table 1. The companies from the sample are in total employing 799 employees (with average ($\bar{x}$) of 18 employees), of which 56% in the "A" rated companies by Bisnode methodology (with $\bar{x}$ - 20), 8.5% in the "B" rated companies (with $\bar{x}$ - 10), 20.9% in the "C" rated companies and 12% in the rest categories ($\bar{x}$ - 18). Although it can be stated that spatial constraints should not significantly effect on development of this sector,

69% of the companies from the sample are registered in the regional centres with more than 59.000 citizens, Osijek and Slavonski Brod, while only 4% of the companies from the sample are registered outside the cities.

***Table 1** Research sample structure according to the business activity*

Total revenue HRK ('000)	**number of companies**	**number of employees**		**average revenue**	**average net profit/loss**	**average export**	**average annual net wages**	**Average days of account blockade**
		total	**average**	HRK ('000)				
15,010 -	2	140	70	19,141	4,206	16,977	92	
10,010 - 15,000	4	133	33	12,318	2,498	8,082	90	
5,010 - 10,000	8	245	31	7,812	528	3,044	67	15
1,000 - 5,000	31	281	9	2,024	144	397	52	24
Total	**45**	**799**		0				
Average (x̄)				4,729	602	2,288	59	23
Median		11		2,649	120	122	53	14
Min		0		1.017	-809	0	9	0
Max		105		21.016	8.161	18,201	117	102
Standard deviation (σ)		21		4,712	1,387	4,397	26	30

Source: Author's work

Given the variability of the business activity indicators, on the basis of median and standard deviation results, it can be stated that the indicators of the sample are highly variable specially if observing profit and loss account categories.

3.2. Research description

The research comprised financial and statistical analysis of selected financial indicators of the companies from the sample including variations of average revenues, Earnings before interest and taxes (EBIT), Earnings before interest, tax, depreciation and amortization (EBITDA), net profit margin (NPM), Capital expenditure (CapEx), return on assets (RoA), Net Income per employee (NIPE) and total assets horizontal analysis for the period 2012 to 2016. By the "Top 100 Croatian IT companies per total revenue" the major number of largest IT companies is located in the Croatia capital city, Zagreb (Tomić, 2017) with only two companies from Eastern Croatia. Almost 80% of the industry is located in Zagreb (Starčić, B., 2017) Although, it has to be mentioned that in Eastern Croatia region, especially Osijek as its administrative centre, some subsidiaries of the largest IT companies, mainly registered in Zagreb, are operating. Their business results are not included in this analysis as of lack of information regarding to subsidiaries performance.

4. Results and discussion

By analysing the structure of the IT sector of Eastern Croatia, it was found that it is highly diversified but the dominant are small businesses, where even 27.6% of total number of registered IT firms achieved less than 75 thous. HRK (i.e. 10 thous. EUR) of annual revenue in 2016. The sample included all 45 companies (19.6% of total population) that achieved more than 1.000 thous. HRK (i.e. 133 thous. EUR).

The table 2 presents the structural analysis of assets in observed period. It can be seen that the total value of the assets grew by 105% in the period 2012 to 2016, but it has to be stated that 24.4% of the companies from the sample, were not existing in the year 2012. Nevertheless, if observing last two years it can be seen that the total assets grew by 25%. The companies retained the similar structure of assets maturity, in average with 26 % of the long-term assets and 73% of short-term assets. At the same time, the increase of the share of cash and financial assets in the overall structure is evident, which is to some extent the result of the rise of liquidity all companies and activities of financial investments conducted by few largest companies from the sample. Nevertheless, it can be stated that the financial position of the IT sector is in general significantly improved as the total cash and short-term financial assets grew for 235.4% in the last five years, where in 2016 these positions are 36% larger than total liabilities of all the companies from the sample.

***Table 2** The analysis of the structure of assets in the period 2012 – 2016*

HRK ('000)

Structure of total assets	2012	2013		2014		2015		2016	
	Total	Total	Index 2013/ 2012	Total	Index 2013/ 2014	Total	Index 2014/ 2015	Total	Index 2015/ 2016
Receivables for unpaid subscribed capital	**0**	**0**		**285**		**0**		**101**	
Long-term assets	**18,818**	**18,167**	**-3%**	**19,969**	**10%**	**26,310.3**	**32%**	**37,092**	**41%**
Intangible assets	1,440	875	-39%	1,097	25%	2,061	88%	7,412	260%
Tangible assets	15,935	14,430	-9%	15,950	11%	16,600	4%	20,727	25%
Financial assets	1,320	2,669	102%	2,607	-2%	7,287	179%	6,356	-13%
Accounts receivable	122	194	58%	314	62%	361	15%	2,597	618%
Short-term assets	**46,701**	**53,700**	**15%**	**67,898**	**26%**	**80,458**	**18%**	**96,737**	**20%**
Stocks	2,934	3,157	8%	3,596	14%	3,432	-5%	2,313	-33%
Accounts receivable	25,303	22,826	-10%	24,656	8%	27,681	12%	32,505	17%
Financial assets	5,897	9,713	65%	13,526	39%	13,839	2%	24,315	76%
Cash	12,567	18,004	43%	26,121	45%	35,506	36%	37,605	6%
Prepaid expenses and accrued income	**63**	**487**	**668%**	**449**	**-8%**	**1,090.4**	**143%**	**692**	**-37%**
Total assets	**65,583**	**72,354**	**10%**	**88,602**	**22%**	**107,858**	**22%**	**134,622**	**25%**

Source: Author's work

Table 3. gives the analysis of the selected financial indicators of the firms from the sample in the period 2012 – 2016 (observing total and average values). The business revenues and EBIT are showing constant growth with more than double increase in the last 5 years. In the same time, the investments in long-term assets are increasing and reaching the average annual level of 7% (2016), but the 204 thous. HRK of average CapEx for the largest companies in the region can still be characterised as modest. This can be explained by the fact that IT activity is not requiring high investments in tangible fixed assets, especially in facilities, but investment requirements are particularly expressed in the provision of high performance ICT equipment and nontangible assets. In total, long-term assets reached 27.6% (2016) of total assets, where the share of intangible assets grew four times in the last five years and in 2016 reached 5,5% of total assets.

***Table 3** The analysis of the selected financial indicators in the period 2012 – 2016*

HRK ('000)

		2012	2013	2014	2015	2016	Index 2016/2012
Average	Business income	2,241	2,607	3,125	3,703	4,556	103%
	EBIT	294	383	489	553	596	103%
	EBITDA	397	490	581	669	768	94%
	NPM	10.70%	11.40%	13.56%	13.02%	13.73%	28%
	CapEx	n.a.	61	122	116	204	-
	NIPE	27	27	34	32	34	23%
	RoA	16.29%	18.47%	21.32%	19.88%	20.12%	24%
Sum sample values (industry)	Business income	100,828	117,293	140,643	166,619	205,035	103%
	EBIT	13,228	17,221	21,999	24,899	26,823	103%
	EBITDA	17,847	22,044	26,161	30,099	34,558	94%
	NPM	10.70%	11.40%	13.56%	13.02%	13.73%	28%
	CAPEX	-	2,734	5,509	5,213	9,158	-
	NIPE	27	27	34	32	34	23%
	RoA	16.29%	18.47%	21.32%	19.88%	20.12%	24%

Source: Author's work

The average business income has risen for 103% in total and in average value that is as well, the indicator of the general IT sector growth. The total NPM shows stabile growth with minor oscillations in 2015, but at the average level 12.5% while average RoA through 5y period is at 19.2% that can be considered satisfactory in the highly competitive global environment, although can be characterised as domain for improvement. As NPM grew from 10.7% (2012) to 13.7% (2016) with stabile but modest rise of total assets, RoA grew from 16.3% (2012) to 20.12% (2016).
At the same time, only NIPE show oscillations from highly positive (27.2% in 2013) to negative after strong growth in previous year (-7.9% in 2015). Nevertheless, NIPE grew per 23% in the observed five year period.
As the negative oscillations occurred in 2015 the circumstances of this negative year should be further analysed with the aim finding the reasons that negatively influenced the IT sector in this year.

5. Conclusion

It was already stated that the IT industry is of high value for the whole economy as of its market achievements and of its influence on the society, state and economy. The aim of the research was to give the insight of the development trends of regional IT sector and possible development limitations that can in the future, impact the regional IT sector growth dynamic.
It was found that the Eastern Croatian IT sector, with smaller deviations in 2015, overall achieves constant growth, measured in terms of business income, the size and structure of total assets, NPM, RoA, EBIT, EBITDA, NIPE and CapEx in observed five years period. As well, the financial position of the industry is more than stabile, measured with level of cash and financial assets in comparison to total liabilities in 2016, with 1.36 ratio.
At the same time, the level of financial utilization of the available grants is rather low. The reason can be found in the fact that already established companies essentially evaluated the application procedure too complex in comparison to value that can be gained. On the other hand, the smaller IT companies, that would highly value non-refundable financing, are rarely eligible based on the conditions of most calls for funding. The IT companies and associations, among others, highlight two factors that can influence dynamics of their further growth: the government measures and activities and the lack and delays in development of programs for educating more highly qualified employees, where labour market is not able meet the constant growth of demand caused by the growth of the IT sector as a whole.

As the analysis identified the positive regional IT sector development trends, although not at the desired volume, and possible development limitations, the state should take into consideration the requests of the IT sector associations for the greater involvement in the designing of strategic government measures, continuation of the digitalization projects on the state level and inclusion in the process of designing the educational models and study programs for producing the high skilled labour force essential for further growth of IT sector.
As of importance of this sector for the regional development, the further research should include the analysis of the IT sector regional specificities with the aim to determine the model for regional IT sector fostering and growth.

REFERENCES

Balen, H. (2017): ***ICT sector 2008 – 2016***, Croatian Employers' Association, Zagreb, www.hup.hr/EasyEdit/UserFiles/ICT_sektor_2008-2016_rev2.pptx (accessed 20 March 2018)

Bestvina Bukvić, I., Nenadić, I., Jurić, T. (2016): ***Položaj u gospodarstvu i struktura financiranja poduzeća u ICT sektoru Republike Hrvatske***, in: Scientific Conference: Globalizacija i regionalni identitet: Sociokulturno nasljeđe i gospodarski razvoj, Faculty of Agriculture in Osijek, J. J. Strossmayer University of Osijek, Faculty of Economics in Osijek, 2016, pp.157-176

Croatian Chamber of Economy (2016): ***ICT industrija osječko-baranjske županije 2008. – 2015. godine***, https://www.hgk.hr/documents/stanje-gospodarstva-obzrujan-201759ef01f2cf62d.pdf, (accessed 15 March 2018)

Croatian Chamber of Economy, IT association (2017): ***Hrvatska IT industrija 2008-2016***, Zagreb, https://www.hgk.hr/documents/digital-techzagreb28112017-hgk-pokazatelji-it-industrije5a1fb8e449a6a.pdf, (accessed 15 March 2018)

European Commission (2017): ***Integration of Digital Technology*****,** Europe's Digital Progress Report 2017

Grajek, M. (2012): ***ICT for growth: A targeted approach***, Bruegel Policy Contribution, No. 2012/10

HINA (2017): ***Domaći ICT sektor dosegao 32 milijarde kuna, izvoz rastao*** 15%, ali postoji problem: digitalna transformacija Hrvatske odvija se presporo, https://www.jutarnji.hr/biznis/tvrtke/domaci-ict-sektor-dosegao-32-milijarde-kuna-izvoz-rastao-15-ali-postoji-problem-digitalna-transformacija-hrvatske-odvija-se-presporo/6384575/, (accessed 10 March 2018)

Link J.P. G., Qureshi S. (2017): ***The Role of Open Source in New Business Formation: Innovations for Development***, Americas' Conference on Information Systems (AMCIS) AIS Electronic

Roland Berger Strategy Consultants, BDI – Federation of German Industries (2015): ***The digital transformation of industry,*** https://www.rolandberger.com/publications/publication_pdf/roland_berger_digital_transformation_of_industry_20150315.pdf, (accessed 10 March 2018)

Starčić, B. (2017): ***Ovo su četiri cilja hrvatske IT industrije***, Hrvatski telekom, https://www.tportal.hr/tehno/clanak/ovo-su-cetiri-cilja-hrvatske-it-industrije-foto-20171128, (accessed 10 March 2018)

Šarić, D. (2017): ***Trendovi u hrvatskoj IT industriji***, InfoTrend 200, Teledom d.o.o., Zagreb, http://www.infotrend.hr/UserFiles/file/listanje/200-1/special/files/assets/basic-html/page14.html, (accessed 13 March 2018)

Tomić, D. (2017): ***Top 100 najuspješnijih IT tvrtki prema prihodima***, ICT business. info, Optimus prime informatika j.d.o.o., Zagreb, http://www.ictbusiness.info/poslovanje/top-100-najuspjesnijih-it-tvrtki-prema-prihodima, (accessed 12 March 2018)

Vallejo, Y. (2014): ***ICT Sector in Croatia***, Belgian Embassy - Economic office, Zagreb, https://www.flandersinvestmentandtrade.com/export/sites/trade/files/market_studies/249140520154614/249140520154614_1.pdf, (accessed 12 March 2018)

Žitnik, B. (2015): ***Hrvatska IT industrija 1995-2015-2025 nastajanje – stanje – budućnost***, TeleDom, Zagreb

Kristina Bučar, Ph.D., Associate Professor
Faculty of Economics and Business Zagreb
University of Zagreb, Croatia
kbucar@efzg.hr

Zvjezdana Hendija, Ph.D., Associate Professor
Faculty of Economics and Business Zagreb
University of Zagreb, Croatia
zhendija@efzg.hr

Zrinka Juratek, Student
Turistička zajednica grada Zagreba
zrinka.juratek@infozagreb.hr

ROLE OF EVENT TOURISM IN THE DEVELOPMENT OF A TOURIST DESTINATION

ULOGA MANIFESTACIJSKOG TURIZMA U RAZVOJU TURISTIČKE DESTINACIJE

ABSTRACT

Tourism plays an important role in the Croatian economy, given that a large share of the Croatian GDP consists of revenue generated from international tourism. The main reason for visiting, for most tourists, is a favourable Mediterranean climate and the sea, so most of the arrivals take place during the summer (very seasonal) and in the coastal part of Croatia. Along with relatively low rates of expenditure per tourist, these are the biggest problems of Croatian tourism. At the same time, tourism is a very dynamic phenomenon and competition is increasing at international tourism market. That is why receptive tourist destinations must constantly improve tourist offer to keep the "old tourists" and attract "new" ones. Therefore, in recent years, Croatia has had a strong tendency to extend the tourist season and to attract tourists to other parts of Croatia, too. One of the ways to do so, is to stimulate the development of various forms of special interest tourism, among which the Event tourism is one of its most promising forms in Croatia. In this process, the city of Zagreb stands out, because in the last decade, there has been noticed a rapid development and growth of tourism, which was mostly influenced by the development of various events in Zagreb.

The aim of the paper is to show the influence of events in the development of tourism in Zagreb. Secondary sources of data will be used mostly. After a brief theoretical overview of the importance of event tourism in the development of tourist destinations, the second part analyses the impact of event planning in Zagreb on the increase of tourist revenue over the past decade. At the beginning there will be a theoretical overview of the development of events and their role in the development of tourist destinations. In second part analyses the impact of event planning in Zagreb on tourism development over the past decade. The following section gives analyse the role of the Croatians tourism boards in crating and planning events which take over the role of destination management organizations, especially in sphere of developing event tourism in some tourists' destinations. They do that with an idea of developing more quality tourist offer in Croatia, and in paper that will be shown on example of event tourism development in the city Zagreb. The last part of the paper will consist of the conclusion and suggestions that can help further the development of sustainable tourism in the city of Zagreb in order to focus on the numerous positive effects of tourism on a local *level, through careful planning and development of tourism, and to minimize or completely neutralize negative effects of tourism development in a tourist destination.*

Key words: *tourism, event tourism, destination management organization, sustainable tourism development, Zagreb.*

SAŽETAK

Turizam ima važnu ulogu u gospodarstvu Hrvatske što pokazuje visok udio prihoda od inozemnog turizma u BDP-u Hrvatske. Činjenica je da je glavni razlog dolaska turista povoljna mediteranska klima i more, pa se tako većina turističkog prometa odvija u ljetnim mjesecima (jako je izražena sezonalnost) i u primorskom dijelu Hrvatske. Uz relativno malu potrošnju po turistu, ovo su najveći problemi hrvatskog turizma. Ujedno, turizam je vrlo dinamična pojava i na međunarodnom turističkom tržištu sve je veća konkurencija među receptivnim turističkim destinacijama, pa je potrebno konstantno obogaćivati ponudu kako bi se zadržali „stari turisti“ ali i privukli novi. Stoga je u Hrvatskoj posljednjih godina jasno izražena tendencija za produženjem turističke sezone te privlačenjem turista i u druge dijelove Hrvatske. Jedan od načina je poticanje razvoja raznih specifičnih oblika turizma, među kojima se posebno izdvaja manifestacijski turizam, kao jedan od njegovih najpropulzivnijih oblika u Hrvatskoj. U tom procesu se naročito ističe grad Zagreb u kojem upravo u posljednjem desetljeću dolazi do brzog razvoja turizma pod utjecajem razvoja različitih manifestacija.

Cilj rada je pokazati utjecaj manifestacija u razvoju turizma grada Zagreba. U radu će se uglavnom koristiti sekundarni izvori podatka. Nakon kratkog teoretskog pregleda o važnosti manifestacijskog turizma u razvoju turističkih destinacija, u drugom dijelu rada analizira se utjecaj organizacije manifestacija u gradu Zagrebu na povećanje turističkog prometa u proteklom desetljeću. Na početku se daje teoretski pregled razvoja manifestacija i njihove uloge u razvoju turističkih destinacija. U drugom dijelu analizira se utjecaj organizacije manifestacije na povećanje turističkog prometa turističke destinacije. Zatim slijedi analiza uloge turističkih zajednica u Hrvatskoj u kreiranju i planiranju manifestacija. Turističke zajednice danas u Hrvatskoj sve više preuzimaju ulogu destinacijskih menadžment organizacija, posebno u sferi razvoja manifestacijskog turizma u pojedinim turističkim destinacijama, a u cilju unaprjeđenja kompletne turističke ponude u Hrvatskoj. To se u radu dokazuje analizom razvoja manifestacijskog turizma u gradu Zagrebu, gdje manifestacijski turizam utječe na povećanje turističkog prometa i povećanje turističke potrošnje. U posljednjem dijelu rada daje se zaključak te prijedlozi koji mogu pomoći daljnjem razvoju održivog turizma u gradu Zagrebu kako bi se kroz pažljiv turistički razvoj naglasili brojni pozitivni utjecaji manifestacijskog turizma na lokalnoj razini, a kako bi se smanjili ili u potpunosti neutralizirali negativni utjecaji razvoja turizma u nekoj turističkoj destinaciji.

Ključne riječi: *turizam, manifestacijski turizam, destinacijske menadžment organizacije, turističke zajednice, Zagreb.*

1. Introduction

Tourism is one of the most prosperous economic activities in the world and often has a significant role in GDP in a large number of countries. At both international and national levels, tourism takes place in very competitive environment (Reig, Perry, 2000, 37). It incorporates a large number of subjects (private and public) that offer a wide range of products and services for different tourist segments. And more than ever, all stakeholders in tourism are trying to attract tourists and respond to their requirements. Tourist satisfaction is considered one of the prime variables in sustaining competitive business in the tourist industry because it affects the consumption of goods and services, the choice of destinations and, generally, the loyalty to a tourist destination (Frangos et al., 2015, 33). For this reason, destination management organizations (DMOs) have an increasing role

to play in the development of tourism in each particular tourist destination, and one of the specific roles of the DMO is to promote the destination through tourism (Getz, 2008, 401).
According to UNWTO (2017), Europe is the most visited tourist region in the world with 616 million tourist arrivals; with a share of 50% in the world's total international tourist arrivals in 2016. Therefore, on order for Europe to keep its position as a top frequently visited region, it needs to find ways to keep its "old" tourists and to attract "new" ones. The Eurobarometer report shows that the inhabitants of the European Union (over 15 years old) took 1.2 billion tourist trips in 2015, and as many as 58% of these trips were short trips (1-3 nights), and in 27% the main motive of their trip was a visit to a city (City Trip) and for 9% of tourists the main motive was a visit to an event (a manifestation) (Flash Eurobarometer 414; 2015, 4-5).
Croatia has a long tradition of tourism and according to the data of DHMZ (the Central Bureau of Statistics), in 2016 Croatia had 15.6 million tourist arrivals and 78 million tourist overnight stays. However, 94 per cent of all tourist overnight stays are located in the coastal part of Croatia, and 86 per cent of tourist movements were made in the 4 of summer months only (Hendija, Kesar, Bučar, 2018, 4). These kinds of tourism market characteristics in Croatia push that its finds ways to spread the tourist flow in the other season in the year and on inland part of Croatia. One of the solutions to these problems can be to encourage the development of various forms of special interest tourism (SITs) among which the event tourism is recognized as one of the most promising.
This special interest tourism (SITs) has been developing dynamically for the last two decades in Zagreb, and that is why Zagreb, as a tourist destination, is the subject of research in this paper. After the introduction, the paper analyses available literature related to event tourism and its development, as well as an increasing importance in tourism market. The following section analysis the role of tourist boards in the development of event tourism in Croatia, and then it is given an overview of tourism development in the city of Zagreb and explains the role of events in its tourism development. Finally, the paper concludes with suggestions on the importance of future developments in tourism in Croatia and ways of managing events as a tourist resource in Croatia. The methodology in the paper is mainly based on secondary data sources. The main source of information is scientific literature on event tourism, as well as UNWTO, European Commission, OECD, CNTB, DHMZ and the Institute of Tourism.

2. Events as tourist resources (attractions)

Tourist resource is every natural or cultural good that is attractive enough to attract the attention of potential tourists (Bilen, Bučar, 2004, 27,), and an attraction is an attractive element in a tourist destination and a smaller part of the landmark or an event that has great attractive power for tourists (Vukonić, Čavlek, 2001, 26). One of the key differences between events and traditional attractions in the period of time over which they impact the host community, events are short-term (often lasting only one or two days) (OECD, 2017/2, 11). Events offer a unique form of tourist attraction, ranging in scale from small community festivals trough to international trade fairs and the word event itself means public forms of expression, agreement or approval, or a happening or a show (OECD, 2017/2, 11).
Nowadays, events are an important motivator of tourism but only last few decades ago "event tourism" has been established as an important part of tourism actually the term "event tourism" was not widely used until 1987 when The New Zealand Tourist and Publicity Department used that term in its report (Getz, 2008, 403-405). Event tourism can be defined as a form of tourism motivated by the occurrence of various happenings of a cultural, entertainment, sports, scientific or business content and business character (Vukonić, Čavlek 2001, 200). To the developing this form of special interest tourism was favoured by the globalization of the tourist market and the new demands of tourists, but also by the increase in the level of disposable income combined with the lack of time, resulting in demand for high-quality organized events (Gračan, Rudančić-Lugarić, 2013, 275). The events can be cultural (music, film, cultural-historical, folklore, ethno-social events), entertainments (knight games, carnivals, contemporary street festivals, contemporary music festivals), sports,

religious and economic (Hendija, Kesar, Bučar, 12). When considering the scale and impact of events, they fall into four broad categories i) local (primarily local participants - impact local), ii) regional (primarily domestic participants - regional impacts), iii) major (significant proportion of international participants - national impacts), and iv) mega-events (primarily international participation and audience - significant national impacts) (OECD, 2017/2; 11).

The organization of the events itself is a very complex process and their organization requires big financial investments, and they are held in a short period of time, only once or twice a year, and pose a big risk (especially financial, and more and more a security risk) (Van der Wagen, Carlos 2008, 32). In spite of all this, events provide a unique experience for the tourists and it became an increasingly important tourist resource. At the same time, well except apart from their attractive role, they can help to alleviate seasonality, and contribute to the creation of the tourist image of the destination (Sevelj, 2015). Also, events could lead to an increase in the income in tourist destinations, brings to the additional employment, originate construction/adaptation of facilities, strengthening the competitiveness of the destination and raising the quality of the tourist offer (Bartoluci, 2013, 210). Withal, event tourism enables the development of the destination and the additional attraction for tourists (especially in the pre and post-season), the construction of tourist infrastructure, the strengthening of the image of the destination and, in general, contributes to better promotion and marketing of the destination (Getz; 2008; 403-405).

With many positive effects that manifestations can have in a tourist destination, they may also have some negative effects, such as: high organization costs, low using of accommodation after the event, the loss of a permanent clientele, the lack of some services due to crowds (e.g. tourist guides, taxi services, etc.), an increase in prices of products and services and pollution of the environment (waste, noise, etc.) (Bartoluci, 2013, 210).

Nevertheless, events are becoming more and more important tourist attraction with the purpose of diversification of tourist offer. They can help to rejuvenation of destinations, create new image, all how to attracting potential tourists and extending they number of overnights in the selected destination and, of course, in order to achieve higher tourist consumption and other positive effects for the destination (Juratek, 2017, 15). Such events today represent an important motive in tourism and are a significant factor in the development of many tourist destinations and represent an upgrade of the tourist supply and thus become the competitive advantage of the destination (Gračan, Rudančić-Lugarić, 2013, 273). Depending on the size of the event, even when they are smaller ones, the organization itself often involves a large number of public and private stakeholders needed to be coordinated and work together in direction to create good and quality tourism offer. Withal, events often include the arrival of a large number of people, in a short period of time, in a relatively small space. Thus, this number of tourist arrivals caused a lot of positive effects in the economic sector and in the social component as well, however it will represent a large, and very often, negative influence on the environment. Therefore, planned events are spatial temporal phenomena because each of them is unique (Getz; 2008, 406) and for these reasons, the role of the DMOs is increasingly important to manage and coordinate the workings of numerous elements of the tourist supply involved in organizing events to thus achieve sustainable development of tourism in destinations. In Croatia, the role of DMOs is more and more being taken over by tourist boards (TZ).

3. Role of Tourist Boards in the development of Event Tourism in Croatia

Trends on world tourism market show that event tourism increasing and become more important in last few decades. Croatian tourist markets follow these trends and there is also an increase in the number and types of events. Merits for this can be attributed to tourist boards (TZ) that have intensified their activities in designing, organizing and promoting different events in the past two decades, all with the goal of improving the tourist supply in tourist destinations.

After the founding of the independent Republic of Croatia (in 1991), the former system of tourist entity's was transformed into tourist boards with far more authority (Law on Tourist Boards NN

27/91). The Law establishes the tourist boards (TZ) as legal entities with main role of the improvement and promotion of Croatian tourism. The term 'destination management' was mentioned for the first time when Ministry of Tourism of the Republic of Croatia in 2008 changed the Law (Boranić Živoder, Tomljenović, Čorak 2011, 19). In the same Law was introduced some TZ tasks related to destination management and on this way, the path was paved for TZs to take over the role of destination management organizations (DMOs) using other countries as role models, as DMOs are widely known as the best organizational forms for managing tourist destinations. Such organizations take responsibility for the management and marketing of tourist destinations (UNWTO, 2007, 4). According to the Encyclopaedia of Tourism (Jafari, 2000, 147), DMO is defined as a business entity that takes over the role of destination management. The DMO thus becomes responsible for designing, coordinating and managing the development of tourism and promotion of a specific tourist area in which it operates.

The organizational structure of the tourist boards in Croatia follows the structure of the system established by the World Tourism Organization in 2007 (UNWTO, 2007, 3). Therefore, the current Law on TZs stipulates that TZs should manage the destination at the level on which they are established (Law on Tourist Boards NN 152/2008). In Croatia are operating, the Croatian National Tourist Board, HTZ (as a national tourism organization), the City of Zagreb Tourist Board, TZGZ (which will be discussed later in more detail) and the regional and county TZs along with numerous TZs at the local level (municipalities, cities and towns). In total, more than 300 TZs at various levels are currently operating in Croatia (Hendija, 2011, 101). The main idea is that the TZs should take over the function of the DMO, which in practice is difficult to achieve due to the conflicting interests of all entities present in tourist destinations. TZs are run by mayors or municipal heads (in the function of the president) who generally represent political interests. The private entrepreneurial sector is concerned only with its own business interests. The local population is striving for a higher quality of life (economic and socio-cultural) in its 'small homeland' (local environment). Therefore, there are latent tensions between three key stakeholder groups in the destinations: public authorities, private entrepreneurs and the local population (Kunst, 2011, 2). Therefore, the necessity of changing the Law on TZs has been discussed about for ten years already (since 2008), and until this moment (April 2018) such a law has not yet been passed. The current Law (from 2008) very precisely defines the goals and specifies the specific tasks of all TZs, depending on the level at which they operate. Thus, among other twenty tasks, the law stipulates that local TZs should 'encourage and organize cultural, entertainment, artistic, sports and other events that contribute to the enrichment of the tourist supply (Art.32, Law on Tourist Boards NN 152/2008). And in the realization of all these tasks, the best cooperation of different stakeholders in the destinations is made.

In Croatia, events are financed from HTZ subsidies, then from the funds of local TZs and the city/municipal budget (because they are related to certain tourist destinations), and from sponsorships and donations as well. That is why the tourist boards, as well as the HTZ, play an extremely important role in the development of event tourism in Croatia.

In order to improve the tourist offer in Croatia, HTZ recognized the importance of encouraging the development of event tourism. Therefore, HTZ financially supports numerous events of local TZs. In the past five years, the number of events supported by HTZ increased by 76 per cent (from 122 events in 2013 to 215 in 2017). Not only was the quantitative increase of their number achieved, but also significantly higher financial resources were allocated from HTZ in support of these events (out of HRK 11.5 million in 2013, the subsidies were increased to HRK 176.2 million in 2017) (HTZ; 2018). Earlier, in 2013, these funds were distributed to local TZs according to counties, depending on their needs but in recent years the emphasis was on encouraging events: in less developed tourist destinations (mostly in the continental part of Croatia); and during non-high season (in so-called PPS period, i.e. in pre and post-season), which have the advantage of receiving subsidies. For example, in the continental part of Croatia in 2017, those were the following events: Christmas Ball Lipizzaners; Šokacko sijelo; Orahovačko proljeće etc. (HTZ, 2018). Most events in Croatia, supported by the HTZ, refer to national and regional events, and only 18 events are of international nature (called TOP events, since they are intended primarily for attracting foreign visitors and, as such, require greater financial support, and for them HRK 4.65 mil of subsides from HTZ are provided for) (HTZ, 2018).

Croatia is currently dominated by traditional and national events that attract mainly local people and one-day domestic visitors from gravitating regions. However, due to revenues from the tourist consumption of foreign tourists, as well as the promotion of Croatia as tourist destination, far more are important the events visited by foreign visitors. However, they are in minority.

Nevertheless, there are national manifestations that attract foreign tourists as well, which makes them different from the average. This applies to those events which simultaneously meet two conditions, that is, place and time of the event, i.e. organized at the peak of the tourist season in coastal places (e.g. Rapska fjera, Sinjska alka) (Hendija, Kesar, Bučar, 2018, 10). Fulfilling only one of these two conditions is not enough to attract foreign tourists. For example, the Festivity of Saint Blaise (Sv. Vlahe), the patron of Dubrovnik, is more visited by the local population, since it is held in February, although Dubrovnik is on the UNESCO list of the intangible heritage and it is Croatia's most popular destination on the world tourist market (Hendija, Kesar, Bučar, 2018, 9). Very similar situation is with the event The Procession "Following the Cross" (Procesija za Križen) on the island of Hvar. It is an intangible heritage under the protection of UNESCO as well but is held during the Easter holidays.

The vicinity of the tourist market, the venue of the event and the also the international nature of the event are affect the structure of the visitors, regardless of the time that the event takes place. The best example is the Rijeka Carnival which is held in February but along with domestic, attracts foreign visitors. In contrast to it, Samoborski fašnik, which is being held at the same time, representing one of the oldest events in Croatia of this type with a very long tradition (from 1827) (Samobor, 2018) but it attracts only domestic visitors. The place of the event is in the continental part of Croatia and it does not have an international character.

Most foreign tourists are attracted by international events that are held elsewhere in the world (e.g. Ultra Music Festival in Split, Croatia). Of course, this group of events includes sporting events with an international character, and, regardless of where they are held and at what time, (e.g. Universiade in Zagreb in 1987, Mediterranean Games in Split 1979, European University Games 2017, World Handball Championship 2009, ATP Umag and others). Unlike these events, most others in Croatia, despite their high popularity among the local population, are not able to attract foreign tourists. A positive example is Špancirfest in Varaždin, an event that began as an extremely national one, which, thanks to the fun and intensive promotional activities of the TZ City of Varaždin, managed to position itself on the international market, and today, besides domestic visitors, attracts a large number of foreign visitors, mostly from neighbouring countries (Slovenia, Hungary, Austria, etc.). Others similar national events in Croatia, should be developed in this direction, too. This especially refers to national events of predominantly folklore character, such as the Đakovački vezovi, Vinkovačke jeseni and the International Folklore Festival in Zagreb who are reputable and popular among domestic population. The fact is that a significant part of the folklore events is not placed sufficiently enough in a fully tourist-oriented function. The same problem has religious events which are held in a sanctuary in Marija Bistrica, Trsat, Sinj and Aljmaš) (Main Plan and Tourism Development Strategy of the Republic of Croatia, 2011, 126).

4. Role of Event Tourism in the development of Zagreb

Zagreb is the capital of Croatia with a rich history, dating to the year 1094 when the settlement Kaptol was first documented, and in 1242 the Upper Town gained the status of the Free Royal City, which initiated the economic development. In the second half the 19th century, both of these units were connected to a form a one city Zagreb. After the earthquake in 1880, Zagreb had gained the today's architectural look. The modernization of the city followed the construction of numerous cultural and historical monuments, the design of parks and squares, palaces, buildings and other object that today represent a base that attracts tourists to the city. The beginning of the development of tourism in Zagreb can be attributed to the year 1853 when, due to an increasing number of foreigners in Vienna, the first map of Zagreb and the surrounding area was printed in color (Vukonić, 1994, 18). Tourism continues to develop significantly after the Second World War, and since the 1950s, the first events have begun taking place (at international level), many of which are still held. The first international large sporting event that took place in Zagreb was in 1987 (Univesiade) and its taking place significantly improved the tourist infrastructure of Zagreb and led to an increase in tourist movement (Graph 1.). But in the following years, a slight decrease in the number of overnight stays in Zagreb has been recorded, which shows that the organization of such a large sports event directly influenced the tourist movement. In 1991, the Homeland War started, which significantly influenced the reduced tourist movement throughout Croatia, as well as Zagreb. After the Homeland War, the events continued to be organized, but did not significantly contribute to the increase in tourist movement in Zagreb (Graph 1).

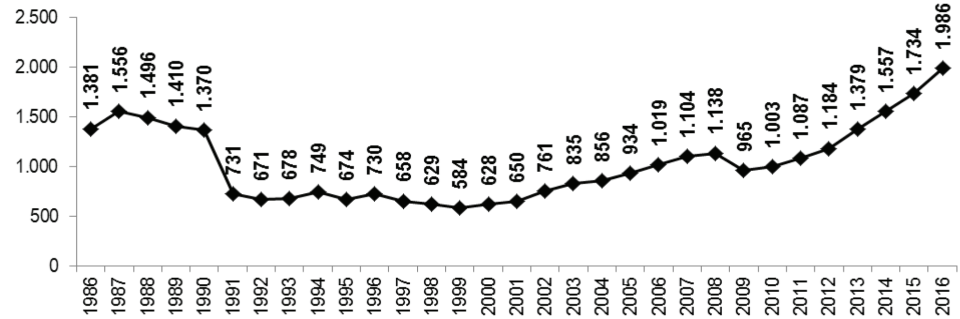
Table 1 *Overview of the most important events in Zagreb (1951-2017)*

Events, 1951 - 1990	Events, 1991 - 2017
Hanžekovićev memorijal – since 1951 Muzički biennale Zagreb – since 1961 Međunarodna smotra folklore – since 1966 Floraart – since 1966 Međunarodni festival kazališta lutaka, PIF – since 1968 Zlatna pirueta – since 1968 Svjetski festival animiranog filma, Animafest – since 1972	Međunarodni ulični festival, Cest is d'Best – since 1997. Zagrebački vremeplov – since 2000. – including different events: Promenadni koncerti na Zrinjevcu – since 2000 Folklorna scena za turiste – since 2006 Gornjogradske verdute – since 2007 Tajne Griča – since 2010. Plesne večeri na Zrinjevcu – since 2011 etc. "Advent u srcu Zagreba“ - since 2002 - "Advent u Zagrebu” since 2010 Festival svjetskog kazališta – since 2003 Zagreb Dox – since 2005 Snow Queen Trophy – since 2005 Festival sv. Marka – since 2006 InMusic Festival – since 2006 Bijela noć (Nuit Blanche) – since 2015 Festival svjetla (Light Festival) – since 2017

Source: Internal documents of TZGZ (2017) Events held for more than 10 years and the initial year of the event, adjusted by Juratek, Z., Department of Product Development TZGZ, Zagreb

Since the beginning of the 2000s, more and more sports and entertainment-based events were being organized in Zagreb. Organizations of them have started to significantly contribute to the promotion of Zagreb as a tourist destination (e.g. Snow Queen Trophy since 2005). The most famous event in Zagreb is "Advent" whose beginnings are recorded in 2000 when a few individual events and programs in December related to pre-Christmas time took place. However, in 2002, TZGZ, with the help of partners, devised and implemented the project "Advent in the heart of Zagreb" on several locations in the city center of Zagreb. Such an event was a good base for the later development of the Advent in Zagreb. It was carefully planned next years, and a larger number of partners joined the organization, as well as the City of Zagreb itself. However, in those first years the direct costs of organizing the event were mostly borne by TZGZ (Juratek; 2017, 70). The event itself was branded in 2010 under the title "Advent in Zagreb" and the first organized advertising campaign was held for it the same year. In 2015 it won the European Best Destinations Award for the Best Advent in Europe, and the event won the award in 2016 and 2017, which shows that it has achieved an international nature in a short time and strongly promotes the city of Zagreb as a destination.

Graph 1 *Number of overnight stays in the city of Zagreb in the period from 1986 to 2016*



Source: 1) Internal documentation of TZGZ (2017) Product development department TZGZ, adjusted by Juratek, Z; Zagreb; 2) Marušić, Čorak, Hendija (2009) Trends TOMAS Zagreb: from 1998 to 2008, Institute for Tourism, Zagreb, p. 73.

The organization of numerous events in the city has certainly contributed to the constant increase of tourist flow in the city of Zagreb, which is visible in the period from 2000 (Graph 1), except for the smaller fall that occurred in 2009 as a consequence of the economic crisis worldwide. At the same time, the data shows that the tourist flow in the period from 2011 to 2016 in Zagreb, compared to Croatia, grew 2 times faster in arrivals and 3 times faster in the overnight stays, so in 2016 in Zagreb about 7.4 per cent of total tourist arrivals in Croatia were made (MT RH, 2017, 33). In the number of overnight stays, this share is smaller, due to a shorter stay in the city and it amounts to about 2.6 per cent (MT RH; 2017, 33). This shows that additional touristic supply of Zagreb should be worked on (developed) in order to extend the stay of tourists in Zagreb and increase their consumption and the organization of events can help solve this problem. Statistical data show that in time of organization of the Advent event in Zagreb the share of overnight stays in November and December (when Advent is held) increased from 13.6 per cent (2007) to 16.3 per cent (2016), and the total consumption generated by the event is estimated in the range of 52 to 58 mil of which 40 per cent is done by foreign tourists (Juratek, 2017, 112). Because of this, TZGZ is actively working on organizing and encouraging the occurrence of various events in Zagreb, and with its support during 2016, around 180 events were held in the city, of which 33 sports competitions, 9 film projects, 10 ethno and gastronomic events, and 20 advent events (Juratek; 2017, 63). In addition, TZGZ financially supports various cultural events, fashion shows; as such events are able to produce a wide range of externalises, including economic impacts, image change, social capital and cultural regeneration of tourist destination (Brito, Richards, 2017, 1).

5. Conclusion

Tourism in Croatia has an important role in the economy, but main problems are seasonality, territorial concentration of tourist flow and of relatively small tourist consumption. Therefore, it is important to make efforts to solve these problems, and it is precisely the event tourism that can be one of the ways. A good example of this is the Advent event in Zagreb, which, in a relatively short period of time, led to a significant promotion of Zagreb on foreign tourist markets, encouraged a significant amount of arrivals in the winter months and stimulated higher consumption of tourists during their stay in Zagreb.

In Croatia, for the last two decades, there is a visible trend of increasing the number of events, but they are still predominantly of local nature and are mostly visited by the local population, i.e. residents and one-day visitors. There are exceptions to these traditional and local events, since some of them are visited by foreign tourists, but these are the ones that are determined both by the place and the time of the event maintenance (because both conditions must be fulfilled), as well as the nature of these event (which should be mostly entertaining). In all events visited by foreign visitors,

the economic effects of these events are higher due to their tourist consumption, but also because of the promotion of Croatia as a tourist destination in foreign tourist markets.
The main problem is the organization of events itself, because it is often not clear who should design, organize, finance and promote them, and in many cases this role has been taken over by the tourist board. It turns out that, currently, the tourist boards in Croatia, at least as far as the organization of events is concerned, take over the role of destination management organizations. However, in planning the development of event tourism, all stakeholders in tourist destinations should be more actively involved, so that all the burden of organizing, financing and promoting is not solely borne by the tourist boards, which for these jobs is often understaffed and financially lacking. In order to determine the effects of event tourism, it would be useful to conduct occasional market research among all visitors of events (such as the Zagreb Tourist Board made during the Advent event) and try to monitor and evaluate the number and structure of visitors (domestic and foreign) and their consumption. It is indisputable that in Croatia, in any case, the development of event tourism must not be neglected, especially since Croatia has good resources to develop this form of tourism. Trends in the global tourism market show that tourists are increasingly seeking authentic experiences in tourist destinations and a diversified tourist supply, and this is what is provided for them in event tourism.

REFERENCES

Bartoluci, M. (2013): ***Upravljanje razvojem turizma i poduzetništva***. *Školska knjiga.* Zagreb.

Bilen, M., Bučar, K. (2004): ***Osnove turističke geografije***, Mikrorad, Zagreb

Boranić Živoder, S., Tomljenović, R., Čorak, S. (2011): ***Suradnja interesnih skupina u turističkim destinacijama,*** u: Čorak, S. Izazovi upravljanja turizmom, Institut za turizam, Zagreb, pp.15-31

Brito, M., Richards, G. (2017): ***Events and Placemakings***, https://www.academia.edu/3118216/Events and Placemaking (30 January 2017)

Flash Eurobarometer 414 (2015): ***Preferences of Europeans towards tourism***, European Commission, http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_414_en.pdf (accessed 4 April 2018)

Frangos, C.C, Karapistolis, D., Stalidis, G., Fragkos Constantinos, I., Sotiropoulos, I. Manolopoulos (2015): ***Tourist Loyalty is All about Prices, Culture and the Sun: A Multinomial Logistic Regression of Tourists Visiting Athens***, Proceedings of the 3rd International Conference on Strategic Innovative Marketing, Madrid, Spain, Vol. 175, pp. 32-38.

Getz, D. (2008): ***Event tourism: Definition, evolution and research***, Tourism Management, Vol.29, pp.403-428.

Glavni plan i strategija razvoja turizma Republike Hrvatske (2011): Hrvatski turizam i konkurentsko okruženje, Izvještaj 3., Institut za turizam, Zagreb.

Gračan, D., Rudančić-Lugarić, A. (2013) ***Konkurentnost turističke destinacije: studija slučaja (case study) Riječki karneval,*** Ekonomski vjesnik, 1/2013, str. 271-282

Grad Samobor (2018): ***Fašnička tradicija, tradicija duža od 190 godina,*** https://www.samobor.hr/visit/fasnicka-tradicija-c60 (accessed 12 April 2018).

Hendija, Z., Kesar, O., Bučar, K. (2018): ***Osnovni podaci o turizmu u svijetu i u Hrvatskoj u 2016. godini***, God.3, Broj 2, Katedra za turizam, Ekonomski fakultet – Zagreb

Hendija, Z. (2011): ***Organizacijska struktura turizma***, u: Čavlek, N. et al.: Turizam, ekonomske osnove i organizacijski sustav, Školska knjiga, Zagreb, pp.80-121.

HTZ (2017): ***Potpore događanjima u 2013. i 2017. godini***, https://www.htz.hr/hr-HR/projekti-i-potpore/potpore-hrvatske-turisticke-zajednice, (accessed 11 April 2018)

Jafari, J. (2000): ***Encyclopedia of Tourism***. London: Routledge. New York: Routledge

Juratek, Z., (2017): ***Uloga turističke zajednice grada Zagreba u razvoju manifestacije „Advent u Zagrebu***“, Specijalistički poslijediplomski rad, Ekonomski fakultet Zagreb, Zagreb

Kunst, I. (2011): ***Upravljanje turističkom destinacijom – ograničenja i mogućnosti***, u: Čorak, S. Izazovi upravljanja turizmom, Institut za turizam, Zagreb, pp. 1-14.

Marušić, Z., Čorak, S., Hendija, Z. (2009): ***Trendovi TOMAS Zagreb: od 1998. do 2008***, u: Čorak, S. et al, TOMAS TRENDOVI - Stavovi i potrošnja turista u Hrvatskoj 1987.-2008., Institut za turizam, Zagreb, pp. 69-99.

MT RH (2017): ***Turizam u brojkama 2016***, Ministarstvo turizma Republike Hrvatske, Zagreb

OECD (2017): ***“Major events as catalysts for tourism”***, OECD Tourism Papers, 2017/02, OECD Publishing, Paris.http://dx.doi.org/10.1787/a0e8a96f-en OECD, 2017/02 (accessed 25 March 2018)

Reige, A.M., Perry, C. (2000): ***National marketing strategies in international travel and tourism,*** European Journal of Marketing, Vol. 34, No. 11/12.

Sevelj, G., (2015): ***Prezentacija – Pozicija manifestacija u nacionalnoj strategiji razvoja turizma*** (online) dostupno na https://prezi.com/x_9ypakjxb8a/pozicija-manifestacija-u-nacionalnoj-strategiji-razvoja-turi/ (accessed 29. March2018.)

UNWTO (2007): ***A Practical Guide to Tourism Destination Management***, Madrid, Spain.

UNWTO (2017) ***Tourism Highlights 2016***, Madrid, Spain.

Van DER Wagen, L i R. Carlos, B. (2008): ***Event Management - Upravljanje događajima za turistička, kulturna, poslovna i sportska događanja***, MATE, Zagreb

Vukonić, B. et al. (1994): ***Tempus fugit***, Povijest turizma Zagreba, AGM: HAZU, Zagreb

Vukonić, B., Čavlek, N., ur. (2001): ***Rječnik turizma***, Masmedia, Zagreb

Zakon o turističkim zajednicama i promicanju hrvatskog turizma, NN 27/91.

Zakon o turističkim zajednicama i promicanju hrvatskog turizma, NN 152/2008, https://narodne-novine.nn.hr/clanci/sluzbeni/full/2008_12_152_4142.html, (accessed 11 April 2018)

Iva Buljubašić, Ph.D., Asst. Prof.
Department of Cultural Studies in Osijek
Trg Sv. Trojstva 3, 31000 Osijek
Phone: ++385-98-820-667
E-mail address:ibuljuba@kulturologija.unios.hr

Diana Kotrla, mag.cult.
Organization KultAkt
Vijenac Ivana Česmičkog 12, 31000 Osijek
Phone: ++385-99-510-7481
E-mail address:diana.kotrla@kultakt.hr

MARKETING AS A BUSINESS SUCCESS FACTOR IN CULTURAL INSTITUTIONS

MARKETING KAO ČIMBENIK USPJEŠNOSTI POSLOVANJA U INSTITUCIJAMA KULUTRE

ABSTRACT

As an important constituent of almost all today's for-profit or non-profit organizations, enterprises, corporations, companies, and institutions,marketing occupies a very important place in all aforementionedbusiness subjects. The aim of this paper is to determine whymarketing is important as a business success factorand how it is applied by cultural institutions. This paper is undoubtedly focused on marketing in culture, i.e. the promotion of cultural institutions, the aims ofmarketing communication in culture and the arts, peculiarities of marketing in culture and objectives of marketing activities in culture. Part of the paper also refers to the role cultural institutions play in the society.
The conclusion deals with the topic of internet marketing (the use of social media in cultural institutions) and a survey whose data and knowledge weregained through a deep interview conducted among cultural institutions (museums, theaters and libraries)located in Eastern Croatia, in the counties of Požega-Slavonia (in the county capital, Požega) and Osijek-Baranja (in the county capital, Osijek). The aim of this research is to find out whether cultural institutions usemarketing methods, how marketing methods are used and whether these methods help to increase the number of visitors.
The purpose of this paper is to study and explore how individual cultural institutions apply marketing methods to their businesses and to what extent they are successful in doing that. By conducting deep interviews with representatives of cultural institutions, the research in this paperalso tries to determine how much marketing affects the performance of cultural institutions.

Key words: *marketing communication, marketing in culture, cultural institutions, advertising, culture.*

SAŽETAK

Marketing kao važan sastavni dio gotovo svih današnjih profitnih ili neprofitnih organizacija, poduzeća, korporacija, tvrtki i institucija zauzima vrlo važno mjesto u svim poslovima spomenutih poslovnih subjekata. Cilj ovog rada je utvrditi zašto je marketing važan kao faktor poslovnog uspjeha i kako ga primjenjuju kulturne institucije. Naglasak u ovom radu nedvojbeno je na marketingu u kulturi: promicanje kulturnih institucija, ciljevi marketinške komunikacije i marketing aktivnosti u kulturi i umjetnosti teosobitosti marketinga u kulturi. Također, određeni dio ovoga rada uključuje, koju ulogu kulturne institucije igraju u društvu.
Rad se zaključuje temom internet marketinga (upotreba društvenih medija u kulturnim ustanovama) i ankete čiji su podaci i znanja prikupljeni dubokim intervjuom provedenim među kulturnim institucijama (muzejima, kazalištima i knjižnicama) smještenih u istočnom dijelu Republike Hrvatske, u Požeško-slavonskoj županiji (u glavnom gradu županije, Požegi) i Osječko-baranjskoj županiji (u glavnom gradu županije, Osijeku). Cilj istraživanja je utvrditi koriste li kulturne institucije i kako koriste marketinške metode te utječe li korištenje spomenutih metodana povećanje broja posjetitelja.
Svrha rada je proučiti i istražiti kako pojedine kulturne institucije primjenjuju marketinške metode u svome poslovanju i u kojoj su mjeri uspješne. Također, provođenjem dubokih intervjua s predstavnicima kulturnih institucija, istraživanjem u ovom radu pokušava se utvrditi koliko marketing utječe na uspješnost poslovanja kulturnih institucija.

Ključne riječi: *marketing komunikacija, marketing u kulturi, kulturne institucije, oglašavanje, kultura.*

1. Introduction

When marketing encounters a conventional institution, it is certainly possible for this meeting to end in success – although the path to success is paved with skepticism, lack of knowledge, experience and creativity, and a certain risk. To avoid negativeexperiences on the road to success, it is necessary for an institution to be open and willing to additionally upgrade knowledge about marketing activities. It has to be willing to accept risk and give a chance to new business marketing methods. Nowadays, cultural institutions in Croatia are still struggling with attracting the audience by marketing communication (some of the institutions in Croatia do not even have marketing departments or employees in marketing). In order to develop a better relationship between marketing and cultural institutions in Požega-Slavonia County and Osijek-Baranja County it is important to research the needs of both cultural institutions and the audience. A well-developed marketing strategy can help not onlybring cultural institutions and the audience together but also better understand each other.
This paper is organized as follows. The first part is theoretical, and it contains a description of cultural institutions in the society, as well as definitions and peculiaritiesof marketing in culture. At the very end of the theoretical part of the paper, internet marketingis explained, with an emphasis on social networks, how cultural institutions today use them and which social networks are most represented in marketing of cultural institutions. The second part of the paper presents the results of the survey conducted among the representatives of cultural institutions. Some questions asked aimed at determining whether marketing can and how it can increase the number of visitors to a cultural institution.

2. Defining marketing in culture

Heilbrun and Gray (2001), Hill et al. (2003), Boter (2005), Bilton (2010), Carls (2012) and Baumgarth et al. (2014) claim that cultural institutions started using marketing in the 1970s with the aim of informing the public about upcoming events and bringingthe arts closer to the audience. That was much simpler in those days because marketing was used only for one-way communication, i.e. to transfer certain information. The artworksexhibited or performed in theaters, museums and other cultural institutions were considered a better form of entertainment than popular forms of entertainment (e.g. television) and it was implied for such art to be financially supported and attended by the audience. According to Kolb (2013), marketing in culture developed from the artists' need to attract an audience and to finance further work because artists were unable to finance themselves; on the other hand, Carls (2012) claims that marketing in culture was created from classic marketing of services.

According to Rentschler (2002), Lee (2005) Hye-Kyung (2004), Thomas and Cutler (1994) and Kolber (2010), the first professional and scientific publications from the area of marketing in culture appeared in the 1970s. The very first publication that presented marketing in culture was Kotler and Levy's "Broadening the Concept of Marketing" published in 1969.
Since the beginning of the 1990s, the implementation of marketing and management in cultural institutions and the arts has become increasingly important and there have been many examples of their quality and systematic practical implementation (Pavičić et al., 2006). The development of marketing in culture has also been accompanied by the development of its definitions and approaches to its conceptualization.

Meler (2006) defines marketing in culture as a business concept of cultural institutions whose aim is to satisfy the consumers' needs with their cultural products and thus achieve the missions of the institutions and their general social objectives. According to Klein (2011), the core of marketing in culture is able to see things from the consumers' perspective in order to satisfy their cultural needs, and according to Hill et al. (2003) and Henze (2014), the most important thing in this process is creativity.

Carls (2012) indicates that marketing in culture has to be concerned with both current and potential audience, and that this approach should be implemented constantly and strategically. According to Šešić-Dragičević and Stojković (2013), marketing in culture has one basic task, i.e. to create and expand the market because business development of cultural institutions is often faced with the obstacle of a "non-existing market", i.e. the lack of audience.

Marketing in culture deals with information and research, development of a new "product", i.e. the cultural product policy, promotion, sales, distribution, organization of supply, identification of capabilities, achievement of optimal goals and distribution of the effects of marketing activities (Mujaković, 2001). According to Aleksić (2001), marketing in culture organizes the supply of cultural institutions, identifies their possibilities and achieves optimal distribution of their effect.
Colbert et al. (1994) define marketing in culture as the art of reaching the target group of people that could be or already are interested in a cultural product.
According to these definitions, it can be concluded that marketing in culture is concerned with the needs of current and potential visitors in order to understand and satisfy their needs for cultural products. In fact, the main task for managers in the field of marketing in culture is working on presentation and popularization of cultural and artistic achievements and also encouraging people's contact with the arts. A cultural manager has the obligation to be aware of the methods and techniques of advertising and needs to have a considerably wider marketing approach to "selling"

his/her programs. This means that he/she needs to explore “the distance between the producer and the consumer”. The market-based approach to culture imposes the requirement of stimulating consumption in order to achieve higher economic returns or profitability of the firm or institution whose product he/she sells (a book, a record, a play, a stand, etc.) (Šešić-Dragičević and Stojković, 2013). A cultural manager should pay special attention to the reduction of distance between producers and consumers by means of marketing.

3. Peculiarities of marketing in culture

According to Antolović (2013), there are several important differences between culture and marketing:
• Culture createsand hopes that the market will like it and marketing reveals what people will like and then offers that to people;
• Culture is primarily oriented towards the product, and marketing is oriented towards the consumer; and
• Marketing of for-profit organizations is turning to innovations only if there is economic justification for it, and non-profit organizations in culture are exploring and experimenting in search of aesthetic values, regardless of success or failure.

There are several reasons for inadequate representation of marketing activities in the institutions of culture and the arts, and some of them are, as stated by Antolović (2013, according to Pavičić et al., 2006), poor acceptance of business concepts in institutions, low salaries and employees who are not motivated in the department of marketing, which is conducive to negative selection and/or fluctuation of staff, i.e. high-quality staff turnover to other institutions or activities, and the inability to move up the career ladder and get promoted at work, especially in smaller institutions.
When talking about specific features of marketing in culture, there are certainly some most common mistakes in marketing. Kotler and Caslione name three of them as follows: “attempting to attract new customers before securing basic business, reducing marketing costs”(Kotler and Caslione 2009, 271)

4. E-marketing of institutions in culture - social networks

Electronic marketing can best be defined as the use of marketing tools through the latest information and communications technology. This form of marketing is developing very fast, primarily thanks to the spread of the Internet and the development of information technology. According to Stanojević (2011), the reason for the popularity and spread of this type of marketing lies in smaller investments and is therefore interesting to all companies and institutions that cannot be represented by mass media for any reason. “The Internet, and then social networks, have changed human understanding of communication. The social web, as we know it today, has given a new meaning to the notion of communication. Changes have been made for those people who goonline more often. Sometimes that was done because they wanted to be informed, wanted to see and experience, read and learn. The reason people are going online today is that they want to be part of communication, want to participate therein, want to be present, and want to read about themselves and about others.”(Stanojević 2011, 168)

Apart from the use of conventional methods such as leaflets, posters, brochures and many other forms, a growing number of institutions in culture have also turned to unconventional forms of marketing. According to Buljubašić (2015, 79),an unconventional form of marketing is interesting and innovative. This information is not surprising, given that digitization has become more and more important, and an increasing number of cultural institutions are turning to social networks in order to attract visitors. “New technologies are largely based on digital assumptions as a result of the fact that data is cheap and easy to access, it is possible to exploit data unlimitedly and with no time constraints. The benefits of a new dimension of communication are obvious when we take into account the amount of information and messages the consumer is exposed to today.” (Martinović 2012, 364)

The most popular social networks, at least when it comes to social networks that are most widely used among cultural institutions, are certainly Facebook and Instagram, somewhat less popular is YouTube, while LinkedIn and Snapchat are rarelyused and almost unrecognizable.

Starčević (2014) states that social media have becomethe main part of integrated marketing communications and cultural institutions have been increasingly adopting social media. Cultural institutions usually have less employees than commercial companies, and most often they do not have any marketing department, so they have to be very economical and choose those social networks that will bring them most success in their target groups. The basic rules of marketing on social networks are authenticity and transparency. By studying their target groups, cultural institutions have the task to choose appropriate social networks and above all to expose ideas to their users. This will attract and retain visitors and users.

5. Empirical research on cultural institutions

The aim of this research was to find out whether cultural institutions use marketing in their business and to what extent. Information relevant to this research was obtained on the basis of in- depth interview with employees of cultural institutions, directors or persons responsible for public relations. The method used is the method of examination and“the basic characteristic of this method is to ask questions in any form and to register them. It is mostly about askingquestions that start with a question word like *who*, *where*, *when*, *how* and *why*. As is apparent from the formulation of the issues to be considered, this method focuses on qualitative research, which is also the reason for the frequent use of this method.” (Meler 1992, 67) It is more important that the interviews are of good quality than how many respondents will be questioned – it is not the quantity, but the quality that matters.
Another aim was to determine how marketing can help in the business done by cultural institutions and to what extent it contributes to business results of cultural institutions. Likewise, employees are generally asked about marketing, social networks, and whether they organize additional activities that increase bothinstitutional visibility and the number of visitors.

The research was conducted in Požega-Slavonia and Osijek-Baranja counties, and the answers were only recorded in Požega-Slavonia County. The following institutions participated in the research: Požega City Theater, Požega City Library and Požega Library, and Požega City Museum. The interview was also administered to the Museum of Slavonia in Osijek, the Museum of Fine Arts in Osijek and Branko Mihaljević Children’s Theater. Thus, the most relevant institutions in the two largest cities in these two counties, i.e. Požega and Osijek, were included.

In the interview, there were answers to a total of 17 questions, divided into two parts: a part referring to general characteristics of the respondent and the institution represented by the data on the place of activity and the type of cultural institution, and a part referring to the meaning of marketing in cultural institutions. The first part of the question was not analyzed in detail in this paper as it was stated which institutions were involved in the study.
The second part of the interview dealt with the issues related specifically to marketing. When answering the first question tackling the issue of their general opinion about marketing in cultural institutions, definition of its specific features in relation to its application in other primarily economic

sectors, despite the fact that they all manage cultural institutions of different activities, the respondents agreed that marketing is an important segment of business that has not yet fully developed, and a Požega City Theater respondent stated that he/she does not see any special feature of marketing in cultural and economic activities as the ultimate goal is to sell the product. The Požega City Museum director said that "it should be borne in mind that culture in these areas isa "necessarily evil"for which there is generally no affinity, so it is necessary to devise and adapt a different marketing strategy, and by doing so, most programs are free, such that marketing activity is focused solely on advertising events, not on sale. Cultural institutions do not have financial resources dedicated to advertising, which makes it more difficult to develop a marketing strategy and it comes down to the design an innovative ways of advertising, which is in turn called guerrilla marketing.

The following two questions referred to whether the institutions have or do not have a marketingdepartment, whether they are planning to hire a person in charge of that department and if so, what marketing benefits they are aware of. The respondents stated that they did not have marketing departments in the true sense of the word, but marketing was carried out by persons performing other functions. As a benefit, they indicated increased institutional visibility. The City Museum stated that there is currently an increased volume of work regarding the opening of new departments and an expert in marketing will soon be required.

The following questionsrelate to the methods used in promoting the cultural institution they work in and they manage, and the respondents stated that they use leaflets, brochures, billboards, radio and television broadcasts, and when it comes to social media, they mostly use Facebook. On the other hand, Požega City Library and Požega City Theater use paid ads on certain occasions. In response to the question as to whether social media help increase visibility, respondents stated that they are helpful and useful to the institution, but a Požega City Theater employee confirmed that they have not noticed any increased visitor access since they started to use social media.

When they responded to Question 8, i.e. "Do you organize any additional activities that would help promote your work? (e.g. free entrance once a year, workshops, presentations, etc.), what are the activities and are they useful to your institution?", respondents stated that they have organized all aforementioned additional activities and that such activities increase visibility and enrich the institution's offer, which is commendable. The City Museum director gave an excellent answer that reads: "We turn our attention to different ways, above all some unusual programs related to current exhibitions and implement unexpected programs at the exhibition opening. We adapt programs to target groups that are otherwise difficult to bring to the museum in an effort to make their visit to the museum a pleasant experience tailored to their needs. We try to move away from politics and clarify that everyone is invited, not just an elite circle of people following cultural events. Equally, we strive for events and projects (barbermuseum, museum of pottery) to create an impression of friendly institutions and break stereotypes and prejudice that museums are boring institutions that are unimaginable to average people. Furthermore, respondents were required to express their opinion on the reasons for not using marketing activities in cultural institutions, which include the need for staff, lack of money and creativity, and as positive examples of using marketing methods the respondents mentioned Rijeka City Library Magazine, the Museum of Arts and Crafts in Zagreb, MoMa in NYC and others.

Regarding the use of marketing agency services, respondents consider this to be an acceptable way if the institution does not have a marketing person, but this is not common because the institutions always lack resources and a City Library employee claims that due to their size,they do not need such employee. When asked about cooperation with other institutions of similar nature and about reduced state aid, a Požega City Theater employee believes that cultural institutions would hardly survive without state aid so that their mutual cooperation would not have a financial impact, and that the founders are those who need to look after their financial sustainability, which are the results confirming thefindings of the previous research carried out in 2015 by Bestvina etal. (2016). The last question was whether cultural institutions in the Republic of Croatia have sufficient resources (primarily human resources) to expand the scope of cooperation with other institutions. The Požega City Library director feels that "cultural institutions in Croatia today do not have enough people with specific knowledge of these areas, there are enough employees but it is necessary to invest in their further education".

Finally, the Požega City Museum director added a comment at the end of the interview rounding off the topic: "This is a very complex topic and retains the status and location of museums (cultural institutions) in society (enough staff and resources for their basic activity), an exhibition and any other event that reaches a visitor is just the tip of the iceberg. Furthermore, there is a question of expanding interest in cultural events, as well as a sense of a thin line that separates the cultural program from the mud and absurd entertainment that often comes out of the context of the museum's mission (currently the Ethnographic Museum and even the Archaeological Museum in Zagreb). The fact is that without professional staff willing to implement marketing activities, cultural institutionswill still be living in the Stone Age."

6. Conclusion

This paper is based on the conclusions made through marketing literature and it deals with marketing as a success factor in cultural institutions.The theoretical part deals with various topics such as the emergence of marketing, product meaning and promotion in cultural institutions. Marketing in cultural institutions differs from that in commercial companies.
As a practical part of the paper, a brief survey was conducted by means of a method of in - depth interviews to determine the way in which marketing is present in cultural institutions in several institutions in the counties of Požega-Slavonia and Osijek-Baranja. Three institutions from Požega area participated in the research. Based on the response given by the leading persons of cultural institutions or marketing leaders, the authors'assumptions are that cultural institutions still lack a sense of how important marketing is when it comes to attracting audiences to cultural institutions, and those that do not, do not have skilled staff dealing with marketing issues, which was confirmed by respondents, and that marketing jobs are "covered" by existing employees (those employees do multiple jobs in the institutions in question). This conclusion is similar to the conclusion drawn from the research presented in the paper "*The potential of marketing in city museums*" by Buljubašić and Jurić (2016) and it is interesting to note that in two years the situation has not improved when it comes to the relationship between marketing and cultural institutions.

Although the situation with cultural institutions on the market in Croatia is really hard due to a lack of financial resources that does not mean that one should ignore the importance of marketing. It is important to see that they are aware that marketing in cultural institutions does not have to be either expensive or complicated.

REFERENCES

Aleksić, Lj.(2001):***Strateški marketing u funkciji unapređenja knjižnične djelatnosti Hrvatske***, Ekonomski fakultet u Zagrebu, Zagreb

Baumgarth, C., Kaluza, M., Lorisch, N. (2014):***Markenaudit für Kulturinstitutionen Ganzheitliches Tool zur Analyse und Professionalisierung der Markenführung im Kultursektor***,Spriger VS, Wiesbaden

Bestvina Bukvić, I., Mihaljević, M.; Tokić, I. (2016):***Financing the theatre: the role of management and the state***, Ekonomski vjesnik, Vol. 29, Br. 1, pp. 125-142

Bilton, K. (2010):***Menadžment i kreativnost***, Clio, Beograd

Boter, J. (2005):***Market structures in arts and entertainment***,Vrije universiteit, Amsterdam

Buljubašić, I. (2015):***Potencijali nekonvencionalnog marketinga u institucijama kulture Republike Hrvatske: doktorska disertacija,*** Ekonomski fakultet u Osijeku, Osijek

Carls, N. (2012):***Guerilla-Marketing im Kulturbetrieb – Innovative Ansätze für die Kommunikation komplexer Produktionen***, Akademikerverlag, Saarbrücken

Heilbrun, J., Gray, C. (2001):***The Economics of Art and Culture: An American perspective. Cambridge***, University Press, Cambridge

Henze, R. (2014):**Kultur und Management – Eine Annäherung**, Springer VS, Wiesbaden

Hill, E., O'Sullivan, C., O'Sullivan, T. (2003):***Creative Arts Marketing***. Butterworth, Oxford

Hye-Kyung, L. (2006):***When arts meet marketing,*** International Journal of Cultural Policy,Vol. 11, Br. 3, pp. 289-305

Kolb, M. B.(2013):***Marketing for cultural organizations – New strategies for attracting audiences***, Routledge, New York

Kotler, Philip, Caslione, John A. (2009):***Kaotika: upravljanje i marketing u turbulentnim vremenima***, MATE d.o.o., Zagreb

Lee, H.-K. (2005):***When arts met marketing.*** International Journal of Cultural Policy, Vol. 11, Br. 3, pp. 289-305

Martinović, Maja. (2012):***Marketing u Hrvatskoj – 55 poslovnih slučajeva***, MATE d.o.o., Zagreb

Meler, Marcel. (1992):***Marketing – komuniciranje***, Ekonomski fakultet u Osijeku, Osijek

Meler, Marcel. (2006):***Marketing u kulturi***, Ekonomski fakultet u Osijeku, Osijek

Mujaković, I. (2001):***Marketing u javnim institucijama culture***, Fakultet poslovne ekonomije, Travnik

Pavičić, Jurica, Aleksić, Ljiljana, Alfirević, Nikša. (2006):***Marketing i menadžment u kulturi i umjetnosti,*** Masmedia, Zagreb

Rentschler, R. (2002):***Museum and Performing Arts of Marketing: The Age of Discovery***, The Journal of Arts Management, Law and Society, Vol. 32, Br. 1, pp. 7-15

Stanojević, Marija. (2011):***Marketing na društvenim mrežama,***MediAnali: međunarodni znanstveni časopis za pitanja medija, novinarstva, masovnog komuniciranja i odnosa s javnostima.Vol. 5, Br. 10, pp. 165-180

Šešić Dragićević, Milena, Stojković, Branimir. (2013):***Kultura: menadžment, animacija, marketing***, Kulturno informativni centar, Zagreb

Thomas, E.G., Cutler, B.D. (1994):***Marketing the fine and performing arts: What has marketing done for the arts lately?,*** Journal of Professional Services Marketing, Vol. 10, Br. 1, pp. 181-199

Tihana Cegur Radović, univ. spec. oec., lecturer
Ph.D. Candidate
Karlovac University of Applied Sciences
Trg J. J. Strossmayera 9
Phone: 0038547 843 519
E – mail address: tcradovic@vuka.hr

Silvija Vitner Marković, Ph.D., college professor
Karlovac University of Applied Sciences
Trg J. J. Strossmayera 9
Phone: 0038547 843 540
E – mail address: silvija.vitner@vuka.hr

Ivana Varičak, M.Sc., senior lecturer
Ph.D. Candidate
Karlovac University of Applied Sciences
Trg J. J. Strossmayera 9
Phone: 0038547 843 541
E – mail address: ivana.grgat@vuka.hr

THE ROLE OF INFORMATION TECHNOLOGY IN TOURIST INFORMATION EXCHANGE AND IN CREATION OF THE TOURIST EXPERIENCE

ULOGA INFORMACIJSKE TEHNOLOGIJE U RAZMJENI TURISTIČKIH INFORMACIJA I KREIRANJU TURISTIČKOG DOŽIVLJAJA

ABSTRACT

The application of advanced information technology in the tourism industry brings certain advantages, on the one hand to the local community, on the other hand, to the visitors of the tourist destination. The emphasis is on enabling interested parties quick and timely exchange of information as well as access to the global tourism market. New marketing perspectives are created in tourism, as well as the perspectives for achieving tourist product recognition of modern tourist destinations. Mobile applications are ubiquitous in the usage of online tourist information sources. The aim of this paper is to investigate the significance and role of the use of advanced information technology in tourist information exchange when visiting a tourist destination through smartphone with the aim of achieving tourist product recognition and creating the tourist experience. An exploratory research has been conducted investigating the views of the student population (aged 18-27) of the city of Karlovac, through the survey questionnaire, on the use of smartphones in the exchange of tourist information when visiting a tourist destination, as well as the importance of tourist information in achieving tourist product recognition and creating the tourist experience. Creating the tourist experience using advanced information technology in the exchange of tourist information ensures a certain level of recognition of a tourist destination on the global tourism market. The following hypotheses have been set in this paper:
H1 – the student population of the city of Karlovac use smartphones to exchange tourist information when visiting a tourist destination,

H2 – the possibility of tourist information exchange using a smartphone when visiting a tourist destination positively affects the decision-making on visiting a tourist destination by the student population of the city of Karlovac,
H3 – tourist information exchange using a smartphone when visiting a tourist destination positively affects the creation of the tourist experience of the student population of the city of Karlovac,
H4 – tourist information exchange using smartphone when visiting a tourist destination positively affects the recognition of a tourist destination by the student population of the city of Karlovac.
This exploratory research is being carried out with the aim of highlighting the role and significance of information technology in creating the tourist experience as well as in the development of smart tourist destinations that are recognizable and ubiquitous in today's global tourism market.

Key words: *information technology, tourist information, smartphone, tourist experience, market recognition.*

SAŽETAK

Primjena napredne informacijske tehnologije u turističkoj industriji donosi određene prednosti, s jedne strane lokalnoj zajednici, s druge strane posjetiteljima turističke destinacije. Naglasak je na omogućavanju zainteresiranim stranama brzu i pravovremenu razmjenu informacija kao i pristup globalnom turističkom tržištu. Stvaraju se nove perspektive za marketing u turizmu i postizanje prepoznatljivosti turističkog proizvoda suvremenih turističkih destinacija. Sveprisutno je korištenje turističkih informacija putem aplikacija mobilne telefonije. Cilj ovog rada je istražiti značaj i ulogu primjene napredne informacijske tehnologije u razmjeni turističkih informacija prilikom posjete turističke destinacije putem smartphonea sa svrhom postizanja prepoznatljivosti turističkog proizvoda i kreiranja turističkog doživljaja. Provedeno je eksplorativno istraživanje koje podrazumijeva anketno ispitivanje stavova studentske populacije grada Karlovca starosne dobi od 18 do 27 godina života o korištenju smartphonea u razmjeni turističkih informacija prilikom posjete turističke destinacije te značaju turističkih informacija u postizanju prepoznatljivosti turističkog proizvoda i kreiranju turističkog doživljaja. Kreiranje turističkog doživljaja primjenom napredne informacijske tehnologije u razmjeni turističkih informacija postiže određenu razinu prepoznatljivosti turističke destinacije na globalnom turističkom tržištu. U radu su postavljene sljedeće hipoteze:
H1 – studentska populacija grada Karlovca koristi smartphone u razmjeni turističkih informacija prilikom posjete turističke destinacije,
H2 – mogućnost razmjene turističkih informacija prilikom posjete turističke destinacije putem smartphonea pozitivno utječe na odluku posjete turističke destinacije od strane studentske populacije grada Karlovca,
H3 – razmjena turističkih informacija prilikom posjete turističke destinacije putem smartphonea pozitivno utječe na kreiranje turističkog doživljaja studentske populacije grada Karlovca,
H4 - razmjena turističkih informacija prilikom posjete turističke destinacije putem smartphonea pozitivno utječe na prepoznatljivost turističke destinacije od strane studentske populacije grada Karlovca.
Ovo eksplorativno istraživanje provodi se sa svrhom isticanja uloge i značaja informacijske tehnologije u kreiranju turističkog doživljaja, kao i formiranju pametnih turističkih destinacija prepoznatljivih i sveprisutnih na globalnom turističkom tržištu današnjice.

Ključne riječi: *informacijske tehnologije, turističke informacije, smartphone, turistički doživljaj, tržišna prepoznatljivost*

1. Introduction

Tourism is a service-intensive industry that is dependent on the quality of customers' experiences and their consequent assessments of satisfaction or dissatisfaction (Ladhari 2009, Mossberg 2007, Saha and Theingi 2009, Sotiriadis, 2017, 35). It is significant for tourism industry to understand the importance of tourist experience and continually improve ways to satisfy tourists. Past studies have confirmed the significance of information communication technologies in tourists experience (Neuhofer et al., 2014, Tan 2017, 614) and in transforming the meaning of travel (Wang et al., 2012, Tan 2017, 614). Information communication technologies, particularly smartphones influence formation, facilitation and co-creation of tourist experience (Neuhofer et al., 2014, Tan 2017, 614). Mobile technologies are increasingly used to deliver tourism service (Canadi et al., 2010, Tan 2017, 614). Mobile technology is playing an increasing role in the tourist experience and a growing body of tourism research focused on this area (Dickinson, 2017, 193).

The year 2010 started the beginning of smartphone mania especially among males in their 20s and 30s (Jung-hyun, 2010, 117). First, customer interests were analyzed from data on online searches. With the recent spread of smartphones and other mobile devices people can search for news they want anywhere anytime (Jung-hyun, 2010, 116). Tourists use the smartphones at the destination for guiding them around the destinations, meeting their immediate needs and revealing new experiential opportunities (Dickinson et al., 2014, Tan, 2017, 615). On site information search via smartphone enhances travel experience and influences how tourists view a destination (Wang et al., 2012, Tan 2017, 615). Smartphones offer tourists the convenience of giving feedback on their travel experience while on the destination (Tan, 2017, 615). Sharing travel experience is no longer restricted to post-trip stage; it can be conducted on-site (Wang et al. 2014, Tan 2017). Some studies have found that the use of mobile devices in the tourism industry improves tourist experience and enhances tourist satisfaction (Lee et al. 2014, Tan 2017, 615). There are also some negative impacts of interacting through mobile phones on real encounters during travel. Some research has explored the tourist experience of disconnection from smartphones when someone has the desire "to get away from it all" (Dickinson et al. 2016, 193).

Primary and secondary data are used in order to achieve the goals of research. Secondary data were collected from published scientific papers that deal with similar issues. The data were analysed by different scientific methods like compilation, description, analysis, synthesis. Primary data were collected by interviewing the student population in Karlovac with the questionnaire. The survey of attitudes and opinions of student population in Karlovac, who were at Karlovac University of Applied Sciences in the period from 20th to 23rd March 2018, served as an exploratory research in order to define and provide guidelines for future research. The questionnaire consisted of 21 closed questions. The Likert scale for measuring attitudes from 1 to 5 was used. Student's attitudes and opinions on the use of smartphones in the exchange of tourist information when visiting a tourist destination, as well as the importance of tourist information in achieving tourist product recognition and creating the tourist experience were explored through the survey questionnaire. The data were consolidated by examining the socio-demographic characteristics of the respondents relating to their sex and age structure, their status at the University. The questionnaire was answered by 284 respondents of the total 2500 students in Karlovac. To be specific, 12% of the student population in Karlovac were included in testing the set research hypotheses.

2. Literature review

The use of smartphones in the tourism context is a relatively new phenomenon (Wang et al., 2014, Tan 2017, 615). Many past studies are concerned with supply-side issues (MacKay and Vogt, 2012, Tan 2017, 615) and involve human-computer interaction design aspects of applications or devices (Wang et al., 2014, Tan 2017, 615). Studies of smartphone use for travel have tended to focus narrowly on particular aspects such as the development of mobile phone applications (e.g. Rasinger, Fuchs, Beer, & Hopken, 2009; Ricci, 2010, Wang et al. 2014, 12), the adoption of smartphones as a general information communication tool (e.g. Eriksson & Strandvik, 2009; Kim, Park, & Morrison, 2008, Wang et al. 2014, 12) or the impact of smartphone usage on certain aspects of the touristic experience (e.g. Kramer, Modsching, ten Hagen, & Gretzel, 2007; Tussyadiah & Zach, 2012, Wang et al. 2014, 12). Mobile devices have become central to the tourist experience of some users (Neuhofer, Buhalis, & Ladkin, 2014; Wang, Xiang, & Fesenmaier, 2016), opened up new marketing and communication opportunities (de Oliveira Nunes & Mayer, 2014; Kang & Gretzel, 2012) and created new challenges for a service-based industry where world-of-mouth recommendations have a powerful influence (Buhalis & Law, 2008, Dickinson et al., 2016, 193). How mobile technology affects the tourist experience is another frequent subject of analysis (Tussyadiah and Zach, 2012; Wang et al., 2012, 2014, Tan 2017, 615). There is still a major gap in understanding the role of technology, especially mobile technology in tourist experiences (Tan 2017, 615). A number of recent studies examined the role of social and mobile technologies in tourism marketing (Wang et al., 2014, Tan, 2017, 615).

Wang et al. (2014) have identified 25 uses of smartphones and categorized them into communication, entertainment, facilitation, and information search. (Wang et al., 2014, 16). These smartphone applications "have the potential to construct a very strong 'mediated gaze'" (Lagerkvist, 2008, 351) in that they can shape traveler's experiences by sharing stories and other forms of shared experiences (Gretzel, 2010, Wang et al. 2014, 14). Smartphones also shape tourist experience through their connection to the tourist's virtual social network (Wang et al., 2014, 14). Smartphones support virtual social networks that no longer need to be place related and allow people to be close to each other although they are physically far apart, that is, to be in two 'places' at once (Höflich, 2005, Tan, 2017, 615). There is a need for more studies on the impact of smartphones on tourist experience.

3. Tourist experience

Nowadays travel is becoming more about experience, fulfilment and rejuvenation then about place and things (Wiliams, 2006, Morgan, 2009, 218). Tourist experience is a complex construct (Neuhofer and Buhalis, 2012) and is inherently personal (Urry, 1990, Neuhofer and Buhalis, 2012). It was originally noted in the 1960s (Moscardo, 2009, (Neuhofer & Buhalis 2012). Experience can be regarded as a personal occurrence with highly emotional significance obtained by the consumption of products and services (Holbrook and Hirshman, 1982, Neuhofer and Buhalis, 2012). Tourist experience is a complex construct which has been postulated as distinct from everyday life experience (Cohen, 1979, Neuhofer and Buhalis 2012). The theoretical basis of the experience concept was established by MacCannell, 1973, Csikszentmihalyi, 1975, Cohen 1979, Mannell and Iso-Ahola, 1987 and Ryan 1997 (Neuhofer and Buhalis, 2012). It is an integration of the consumption of displayed objects and activities, the subjective interpretation of meanings and motivations of the tourist, and sensations within space and time (Jennings and Weiler, 2006, Tan 2017, 616). Tourism has principally been concerned with the tourist experience of visiting, seeing, learning, enjoying, and living in a different mode of life (Stamboulis and Skayannis 2003, Oh 2007, 120). Everything tourists go through at a destination can be an experience (Oh, 2007, 120).

Pine and Gilmore (1999) operationalized experience as four unique dimensions: education, escapism, esthetics, and entertainment. Along the customer participation axis, passive participation of the customer in destination offerings characterizes the entertainment and esthetic dimensions, whereas educational and escapist dimensions reflect active participation. (Oh et al. 2007, 120). The tourist who passively participates in destination activities does not directly affect or influence the performance of the destination, whereas an active participant will personally affect the performance or event that becomes part of his or her experience. Along the absorption-immersion axis, the tourist typically “absorbs” entertaining and educational offerings of a destination and “immerses” in the destination environment resulting in esthetic or escapist experiences. Absorption in this context is defined as “occupying a person’s attention by bringing the experience into the mind” and immersion as “becoming physically (or virtually) a part of the experience itself” (Pine and Gilmore 1999, 31).

Escapism experience is related to tourists being ‘immersed’ in the environment, resulting in the feeling of escaping from their daily lives (Lee et al., 2014, Tan, 2017, 616). Entertainment experience occurs when tourists passively observe activities taking place at a destination. (Tan, 2017, 616). Esthetic experience is obtained when tourists enjoy and passively appreciate being in the destination environment (Oh et al., 2007, Tan, 2017, 616). Education experience is acquired when tourists increase their knowledge or skill (Tan, 2017, 616).

Impact of ICT on the tourist experience is changing the nature of the tourist experience, as a new types of technologies facilitate new activities. (Gretzel and Jamal, 2009). Trends shows that ICTs are increasingly key to positive tourism experiences and should be taking on an integral role in the marketing of such tourism experiences. (Yoo, 2016, 414). Tourist experiences are co-created with the tourists (Binkhorst & Den Dekker, 2009; Prebensen & Foss, 2011) and ICTs play an integral role in the co-creation process (Neuhofer et al., 2014, Yoo 2016, 411).

4. Smart tourist destinations and tourist experience

Marketing within Smart Tourist Destinations: Gretzel, Sigala, Xiang, and Koo (2015) define smart tourism as “tourism supported by integrated efforts at a destination to collect and aggregate data derived from physical infrastructure, social connections, government/organizational sources and human bodies/minds in combination with the use of advanced technologies to transform that data into on-site experiences and business value-propositions with a clear focus on efficiency, sustainability and experience enrichment” (Yoo, 2016, 419). The priorities of Smart Tourist Destinations construction are to enhance tourists’ travel experience; to provide more intelligent platform both to gather and distribute information within destinations; to facilitate efficient allocation of tourism resources; and to integrates tourism suppliers at both micro and macro level aiming to ensure that benefit from this sector is well distributed to local society (Rong; 2012 in Buhalis & Amaranggana; 2014, 561, 562). Tourist experience based on the ICT in tourism related to the development of a specific solution, technology or product is a premise of constructing the Smart Tourist Destination. Those destinations which are focused, among other things, on digital opportunities to enhance tourist experience are so called Smart Tourist Destinations.

5. Research results

This chapter presents the results of descriptive statistics for the variables according to which attitudes of the student population of the city of Karlovac were examined. The analysis of the collected data included statistical data processing according to selected central tendency measures (arithmetic mean, mode, median) and data dispersion measures (range of variation). The general characteristics of surveyed students on the gender and age structure, status and type of study programme are as follows.

Table 1 *General characteristics of students*

GENERAL CHARACTERISTICS OF STUDENTS		PERCENTAGE
GENDER	FEMALE	42.6%
	MALE	57.4%
AGE	18 - 20	43.0%
	21 - 23	40.1%
	24 -26	7.7%
	27	9.2%
STUDENT STATUS	Full time student	80.6%
	Part time student	19.4%
TYPE OF STUDY PROGRAMME	Undergraduate	85.6%
	Graduate	14.4%

Source: Authors on the basis of research results (N=284)

In total 42.6% of female respondents and 57.4% of male respondents participated in the research. Most respondents belong to the age group 18 to 23 with a share of 83.1% of all respondents 80.6% were full time students, and 19.4% were part time students. Most of the respondents are undergraduate students 85.6%.

Table 2 *The usage of Smartphone while traveling*

The use of smartphones in the exchange of tourist information when visiting a tourist destination							
	TRAVEL INFORMATION	GENERAL INFORMATION	DIGITAL MAPS AND ROUTES	INFORMATION ON TOURIST ATRACTIONS	INFORMATION ABOUT ACCOMODATION AND RESTAURANTS	INFORMATION ON ENTERTAINMENT	INFORMATION ABOUT SHOPS
MEAN	4	4	4	4	4	4	3
MEDIAN	4	4	4	4	4	4	4
MODE	4	4	5	4	5	5	4
RANGE	4	5	4	4	4	4	4

Source: Authors on the basis of research results (N=284)

The results of the survey on the question related to the exchange of tourist information by the smartphone when visiting destination, show an average rating of 4, which implies agreeing with the same statement of the survey questionnaire. The most frequent response of students regarding the use of smartphones when exchanging tourist information was for the purpose of searching for digital maps and routes, accommodation information and information on restaurants and shops. The average rate was 5 which imply agreeing with the statements completely. Based on the presented data analysis results, the first hypothesis of this paper can be confirmed. Student population of the town of Karlovac use a smartphone to exchange tourist information when visiting a tourist destination.

The ability to exchange tourist information by a smartphone in the destination provides one of the additional benefits for students that they will use when visiting the destination. This statement had an average rating of 4. Creating a unique experience based on entertainment, educational content, and everyday escape from the reality by using smartphone is rated an average rating of 4, while the creation of a unique experience based on the aesthetic attraction of the destination is rated by an average rating of 3. Evaluation 3 indicates the indifference of the respondents in the aforementioned case. The ability to exchange tourist information in a destination by the smartphone for students means differentiating that tourist destination from the others, a significant assumption in creating a positive image of the tourist destination and the premise of creating a reminiscence of visit. The same statements of the questionnaire were evaluated by an average rating of 4, which implies that the respondents agree with these statements.

The coefficient of simple linear correlation, in particular the Pearson coefficient, was used while testing the hypothesis of this paper. Pearson's correlation coefficient assumes a range of minus one to plus one. The authors (Dawson & Trapp, 2004) find that the values of correlation coefficients from 0 to 0.25 or 0 to -0.25 indicate that there is no correlation, while the values from 0.25 to 0.50 or from -0.25 to - 0.50 indicate a poor correlation among variables. Correlation coefficient values from 0.50 to 0.75 or from -0.50 to -0.75 indicate a moderate correlation, and values from 0.75 to 1 or from -0.75 to -1 point to very good to excellent correlation between variables.

The tables below show the values of the Pearson coefficient of correlation between independent variable of this research, which states "exchange of tourist information via smartphone when visiting a tourist destination" and three dependent variables that are referred to "decision to visit a tourist destination", "creating a tourist experience" and "recognizability of tourist destination". The independent variable "exchange of tourist information via smartphone when visiting a tourist destination" was observed by the seven dimensions in the survey questionnaire. The first dependent variable "decision to visit a tourist destination" was observed through three dimensions, the second dependent variable "creating a tourist experience" was observed through four dimensions and the third dependent variable "recognizability of the tourist destination" was observed through three dimensions.

The table 3 shows the result of the correlation of the aggregate elements of the independent variable "exchange of tourist information via smartphone when visiting a tourist destination" and the first dependent variable "decision to visit a tourist destination". The Pearson correlation coefficient value, in this case, is 0.50 and indicates a moderate positive correlation between variables.

Table 3 *Correlation of aggregate elements of tourist information exchange when visiting a tourist destination through smartphone and the decision on visiting a tourist destination*

		SU Smartphone usage	**DTV** Decision to visit
SU Smartphone usage	Pearson correlation Sig. (1-tailed) N	1	**,500(**)** ,000
DTV Decision to visit	Pearson correlation Sig. (1-tailed) N	**,500(**)** ,000	1

** Correlation is significant at the level 0,01 (1-tailed)

Source: Authors on the basis of research results (N=284)

Table 4 shows the result of the correlation of the aggregate elements of the independent variable „tourist information exchange when visiting a tourist destination through smartphone“ and second dependent variable „the creation of a tourist experience“. The value of Pearson coefficient of correlation, in this case, is 0.48 and indicates a weak positive correlation between variables.

Table 4 *Correlation of aggregate elements of tourist information exchange when visiting tourist destination through smartphone and the creation of a tourist experience*

		SU Smartphone usage	**TEC** Tourist experience creation
SU Smartphone usage	Pearson correlation Sig. (1-tailed) N	1	**,480(**)** ,000
TEC Tourist experience creation	Pearson correlation Sig. (1-tailed) N	**,480(**)** ,000	1

** Correlation is significant at level 0,01 (1-tailed)

Source: Authors on the basis of research results (N=284)

Table 5 shows the result of the correlation of the aggregate elements of the independent variable „exchange of tourist information when visiting a tourist destination through smartphone“ and the third dependent variable „the recognition of a tourist destination”. The Pearson correlation coefficient value, in this case, is 0.52 and indicates a medium positive correlation between variables.

Table 5 *Correlation of aggregate elements of tourist information exchange when visiting a tourist destination through smartphone and the recognition of a tourist destination*

		SU Smartphone usage	**TDR** Tourist destination recognition
SU Smartphone Usage	Pearson correlation Sig. (1-tailed) N	1	**,520(**)** ,000
TDR Tourist destination recognition	Pearson correlation Sig. (1-tailed) N	**,520(**)** ,000	1

** Correlation is significant at level 0,01 (1-tailed)

Source: Authors on the basis of research results (N=284)

Since the initial hypotheses of conducted research were: H1 – the student population of the city of Karlovac use smartphones to exchange tourist information when visiting a tourist destination, H2 – the possibility of tourist information exchange using a smartphone when visiting a tourist destination positively affects the decision-making on visiting a tourist destination by the student population of the city of Karlovac, H3 – tourist information exchange using a smartphone when visiting a tourist destination positively affects the creation of the tourist experience of the student population of the city of Karlovac, H4 – tourist information exchange using smartphone when visiting a tourist destination positively affects the recognition of a tourist destination by the student population of the city of Karlovac, it can be concluded that all aforementioned hypotheses have been confirmed.

6. Conclusion

The authors of this paper explored the importance and the role of advanced information technology in the exchange of tourist information through smartphones when visiting a tourist destination with the aim of achieving recognizable tourist product and creating a tourist experience. The study was conducted on the student population of the city of Karlovac. The research results point out the presence of mobile technology in creating a tourist experience. The student population uses smartphones while visiting tourist destinations thus affecting the decision-making on visiting a tourist destination. Also, the use of smartphone positively affects the recognition of a tourist destination on the market by the student's population. Recommendations for future research of these issues are directed toward expanding spatial scope of the study while implementing a survey of the target group. It is also recommended to conduct research on other target groups that are not a part of the student population.

REFERENCES

Buhalis, D. & Amaranggana, A., (2014): ***Smart Tourism Destinations, conference proceedings Information and communication Technologies in tourism 2014***, Xiang, Z., Tussyadiah, I. (eds.), pp. 553-564, ISBN 978-3-319-03972-5, Dublin, January 21-24, 2014, Springer, Cham

Dawson, B. & Trapp, R. G., (2004): ***Basic and Clinical Biostatistics***, 4th edition, New York, McGrow-Hill Companies, ISSN 1045-5523

Dickinson, J.E., Hibbert, J.F. & Filimonau, V., (2016): ***Mobile technology and the tourist experience: (Dis)connection at the campsite***, Tourism Management, 57, pp.193–201

Jung-hyun, P, Na-kyung, K., (2011): ***The Interests and Lifestyles of Korean Consumers***, Korea Fokus, Spring 2011, pp. 116 – 126

Lagerkvist, A., (2008): ***Travels in Thirdspace***, *European Journal of Communication*, 23(3), pp.343–363. Available at: http://journals.sagepub.com/doi/10.1177/0267323108092539.

Morgan, M., Xu, F., (2009): ***Student Travel Experiences: Memories and Dreams***, Journal of Hospitality Marketing & Management, 18:2-3, 216-236, DOI: 10.1080/19368620802591967

Neuhofer, B. & Buhalis, D., (2012): ***Understanding and managing technology-enabled enhanced tourist experiences***, *2nd Advances in Hospitality and Tourism Marketing & Management Conference*, (June), https://www.researchgate.net/publication/236214152

Oh, H., Fiore, A.M. & Jeoung, M., (2007): ***Measuring Experience Economy Concepts: Tourism Applications***, *Journal of Travel Research*, 46(2), pp.119–132, Available at: http://journals.sagepub.com/doi/10.1177/0047287507304039.

Pine, B. J. II., and H. J. Gilmore (1999): ***The Experience Economy: Work is Theatre & Every Business a Stage,*** Boston, MA: Harvard Business School Press

Tan, W.K., (2017): ***The relationship between smartphone usage, tourist experience and trip satisfaction in the context of a nature-based destination,*** *Telematics and Informatics*, 34(2), pp.614–627, Available at: http://dx.doi.org/10.1016/j.tele.2016.10.004.

Wang, D., Xiang, Z. & Fesenmaier, D.R., (2014): ***Adapting to the mobile world: A model of smartphone use***, *Annals of Tourism Research*, 48, pp.11–26, Available at: http://dx.doi.org/10.1016/j.annals.2014.04.008.

Yoo, K.-H., (2016): ***The Handbook of Managing and Marketing Tourism Experiences***, Bingley, Emerald Group Publishing Limited Available at: http://www.emeraldinsight.com/doi/book/10.1108/9781786352897.

Saša Čegar, Ph.D., Postdoctoral Research Assistant
Faculty of Economics, Rijeka
51000 Rijeka, Ivana Filipovića 4
051/ 353 120
sasa.cegar@efri.hr

Prof. Nada Denona Bogović, Ph.D., Full Professor
Faculty of Economics, Rijeka
51000 Rijeka, Ivana Filipovića 4
051/ 353 142
nada.denona.bogovic@efri.hr

Prof. Saša Drezgić, Ph.D., Professor
Faculty of Economics, Rijeka
51000 Rijeka, Ivana Filipovića 4
051/ 353 129
sasa.drezgic@efri.hr

STRUCTURAL CHARACTERISTICS OF THE ECONOMY OF THE CITY OF VUKOVAR IN TERMS OF EFFECTIVENESS OF STATE AIDS[1]

STRUKTURNA OBILJEŽJA GOSPODARSTVA GRADA VUKOVARA S ASPEKTA UČINKOVITOSTI DRŽAVNIH POTPORA

ABSTRACT

One of the fundamental roles of the Croatian regional policy is to reduce economic inequalities at the regional and local levels through the state aid system for less developed local economies, which is aimed at strengthening their competitiveness, attracting investment, creating new jobs, reducing entrepreneurial costs, etc. This especially refers to the City of Vukovar where the level of state intervention has been most pronounced. However, it is indicative that the long-term economic problems of the City of Vukovar such as, for example, low levels of economic and investment activity, increasingly difficult employment of local population and loss of the workforce have intensified even more, which points out the ineffectiveness of the previous incentive measures for economic development of the City of Vukovar. Since the effectiveness of these measures largely depends on their adaptation to the economic characteristics of the City of Vukovar in relation to its immediate and national environment, the purpose of this paper is to explore and compare the structural characteristics and trends in the economy of the City of Vukovar and those of the Republic of Croatia and Vukovarsko-Srijemska County by using selected economic indicators. Special attention is devoted to the assessment and structural analysis of total gross value added of entrepreneurs.Based on the obtained research results, the aim of this paper is to propose directions for the adoption of new measures for the economic revitalization of the City of Vukovar.

Key words: *City of Vukovar, regional inequalities, economic development, regional policy.*

[1]This work has been supported in part by the Croatian Science Foundation under the project number IP-2013-11-8174, in part by the University of Rijeka under the project number 13.02.1.2.02 and under the project number 13.02.1.2.04

SAŽETAK

Jedna od temeljnih uloga hrvatske regionalne politike odnosi se na smanjenje gospodarskih nejednakosti na regionalnoj i lokalnoj razini kroz sustav državne pomoći slabije razvijenim lokalnim gospodarstvima u jačanju njihove konkurentnosti, privlačenju investicija, otvaranju novih radnih mjesta, smanjenju troškova poslovanja poduzetnika i slično. To se posebno odnosi na Grad Vukovar gdje je razmjer državne intervencije do sada bio najviše naglašen. Međutim, indikativno je da su se dugoročni gospodarski problemi Grada Vukovara poput, primjerice, niske razine ekonomske i investicijske aktivnosti, sve težeg zapošljavanja stanovništva i gubitka radne snage još više intenzivirali, što ukazuje na neučinkovitost dosadašnjih mjera poticanja gospodarskog razvoja Grada Vukovara.Budući da učinkovitost tih mjera uvelike ovisi o njihovoj prilagođenosti gospodarskim specifičnostima Grada Vukovara u odnosu na njegovo neposredno i nacionalno okruženje, svrha ovog rada je temeljem odabranih ekonomskih pokazatelja istražiti strukturna obilježja i kretanja u gospodarstvu Grada Vukovara u usporedbi s Republikom Hrvatskom i Vukovarsko-srijemskom županijom, pri čemu je posebna pozornost posvećena procjeni i strukturnoj analizi ukupne bruto dodane vrijednosti poduzetnika. Cilj rada je temeljem dobivenih rezultata predložiti smjernice za donošenje novih mjera gospodarskog oporavka Grada Vukovara.

Ključne riječi: *Grad Vukovar, regionalne nejednakosti, gospodarski razvoj, regionalna politika.*

1. Introduction

In line with the EU cohesion policy, and taking into account general sustainable development principles, the regional policy of the Republic of Croatia aims to contribute to overall socioeconomic development of the Republic of Croatia through the reduction of development inequalities at the local and regional level. To achieve this goal, regional policy measures are primarily aimed at providing supportto less developed areas and areas with developmental specificities in strengthening their competitiveness and achieving greater and more effective use of their own development potential(cf. GRC, 2017). However, despite many years of institutional efforts invested in the implementation of numerous state aid measures,[2]the expected economic convergence within the Republic of Croatia has not yet been achieved. On the contrary, in the majority of assisted local governments, continuous negative economic trendshave been recorded, i.e. an increase in the economic gap compared to the national average. This is especially evident in the example of the City of Vukovar that has a special status in the regional policy system as well as related development policies. This status was regulated by the adoption of the Law on Reconstruction and Developmentof the City of Vukovar in 2001(OG 40/01, 90/05, 80/08, 38/09, 148/13), whosemain aim was to use incentive measures to accelerate the reconstruction and development of the entire city area and eliminate the consequences of destruction of buildings and other consequences of the Homeland War. However, the fact remains that this Lawfailed to stimulate economic and demographic revitalisation of the City of Vukovar.[3]This is why the Ministry of Regional Development and EU Funds in 2017 initiated the procedure for amending this Act and adopting a new legal framework to revise and improve the system of measures and mechanisms for the implementation of state aid to the City of Vukovar, to achieve faster and more

[2] For example, thisreferrs to direct capital aids to local and regional budgets, more favourable treatment in the shared tax distribution system, tax reliefs for tax payers, reduction of business expenses for entrepreneurs and farmers, incentives in the housing segment, incentive measures for employment, etc.

[3] In addition to the content of the measures, this was significantly contributed by a number of restrictive situational circumstances. For example, the implementation period of the Law was initially under strong influence of general socioeconomic consequences of the Homeland War, which reduced the positive influence of state intervention, long-standing presence of recessionary conditions, and the economic crisis in the national economy, insufficient financial resources and administrative barriers to effective implementation of state aid measures, etc (cf. https://esavjetovanja.gov.hr/ECon/MainScreen?entityId=5940).

efficient stimulation of its economic development with emphasis on attracting investment, developing entrepreneurship and opening new jobs.

In this context, the contribution of this paper is reflected in the identification of characteristics and specificities of the economy of the City of Vukovar and the design of proposal of key areas and aspects of the future development program.

2. General Economic Trends

When analysing the dynamics and structure of economic trends in local governments located in countries with relatively small economies such as the Republic of Croatia, it is important to note that they are largely determined by changes in the national economy (cf. Leigh & Blakely, 2016). Therefore, in order to provide a quality assessment of the economy of the City of Vukovar, it is necessary to determine how it reacted to the effects of the negative economic cycle in the national economy that lasted from 2009 to 2015. Such analyses are usually based on GDP indicators. However, due to the lack of official data on GDP of local governments in the Republic of Croatia, the analysis of the impact of the crisis in the national economy on economic trends in the City of Vukovar will first be considered from the perspective of selected labour market indicators (cf. Table 1).

Table 1 *Employment, unemployment, workforce and unemployment rate trends in the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia for the period 2008-2016*

Years	Employment			Unemployment			Workforce			Unemployment rate		
	City of Vukovar	Vukovarsko-Srijemska County	Republic of Croatia	City of Vukovar	Vukovarsko-Srijemska County	Republic of Croatia	City of Vukovar	Vukovarsko-Srijemska County	Republic of Croatia	City of Vukovar	Vukovarsko-Srijemska County	Republic of Croatia
2008	10.099	60.529	1.720.971	2.762	16.472	236.741	12.861	77.001	1.957.712	21,48	21,39	12,09
2009	9.930	59.473	1.691.224	2.755	17.380	263.174	12.685	76.853	1.954.398	21,72	22,61	13,47
2010	9.455	57.352	1.641.165	2.909	18.909	302.425	12.364	76.261	1.943.590	23,53	24,8	15,56
2011	8.963	56.397	1.627.974	2.628	18.575	305.333	11.591	74.972	1.933.307	22,67	24,78	15,79
2012	8.765	54.967	1.613.012	2.773	19.938	324.323	11.538	74.905	1.937.335	24,03	26,62	16,74
2013	8.377	53.313	1.593.218	2.927	21.407	345.111	11.304	74.720	1.938.329	25,89	28,65	17,8
2014	8.112	53.067	1.600.446	2.803	20.189	328.186	10.915	73.256	1.928.632	25,68	27,56	17,02
2015	8.316	53.737	1.624.323	2.377	17.048	285.905	10.693	70.785	1.910.228	22,23	24,08	14,97
2016	8.231	53.117	1.642.199	1.963	14.352	241.859	10.194	67.469	1.884.058	19,26	21,27	12,84
ROC (%) 2014/2008	-19,68	-12,33	-7,00	1,48	22,57	38,63	-15,13	-4,86	-1,49	19,55	28,85	40,78
ROC (%) 2016/2008	-18,50	-12,25	-4,58	-28,93	-12,87	2,16	-20,74	-12,38	-3,76	-10,34	-0,56	6,20
Absolute change 2014/2008*	-1.987	-7.462	-120.525	41	3.717	91.445	-1.946	-3.745	-29.080	4,20	6,17	4,93
Absolute change 2016/2008*	-1.868	-7.412	-78.772	-799	-2.120	5.118	-2.667	-9.532	-73.654	-2,22	-0,12	0,75

Source: Compiled by authors based on the data by the Ministry of Regional Development and EU Funds
* Absolute change in the unemployment rate is expressed in percentage points.

Comparative data on basic labour market indicators indicate that the economic crisis in the Republic of Croatia had a stronger impact on the economy of the City of Vukovar than on the economy of the Vukovarsko-Srijemska County. During the six-year period of the crisis, as much as 19,68% of jobs were lost in the City of Vukovar, which is 7,35 percentage points higher than the county level and12,68 percentage points higher than the state level. This points to the conclusion that the City of Vukovar will, in the present circumstances, need a relatively longer period of time to reach the level of economic activity and employment from 2008. It is discouraging that both the City of Vukovar and its County have been heavily deprived areas for many years,and their economies hadexperienceda significant weakness in labour force absorption even before the crisis. For example, in 2008, the City of Vukovar and Vukovarsko-Srijemska County had almost double unemployment rate compared to the state average. Thus, the value of their labour market indicators before the crisis cannot be desirable criteria for achieving a high degree of sustainable ecomic convergence according to national averages.

It is interesting that both the City of Vukovar andVukovarsko-Srijemska County recorded a rapid decline in unemployment in relation to the Republic of Croatia. For example, in 2016, the City of Vukovar had 28,93% lower unemployment and 2,22 percentage points lower unemployment rate than in the pre-recession 2008, while in the same period overall unemployment in the Republic of Croatia increased by 2,16%, and the unemployment rate by 0,75 percentage points. However, sole observation of unemployment trends and unemployment rates can lead to a completely wrong conclusion that there are positive trends in the local and county labour market. Namely, from the data presented in Table 1, it is quite clear that the decline in unemployment in the City and County is not even remotely proportional to the increase in employment, which means that the emergence of a sudden decreasein unemployment and unemployment rate in the City and County after 2014 is not a result of positive economic environment and cyclical movements, but a direct consequence of intensive emigration of working-age population. There is in fact a strong degradation of the real labour potential of the City of Vukovar and its wider county area.

Although during and after the negative economic cycle there has been a negative trend of labour force movement in allobserved territorial units, it is still significantly more pronounced in the City and County. Data for the City of Vukovar show that in 2016, the volume of workforce in its area decreased by high 20,74% in relation to 2008, while after 2014, the number of economically active inhabitants in the City of Vukovar decreased almost three times faster than state average. This unfortunately indicates that current employment and job supply capacities in the local and county economy are still too low to alleviate the ever-increasing gravitational effects of economically more developed parts of the Republic of Croatia and the EU countries on the outflow of local and county workforce, and hence on the growing economic lag of the City of Vukovar and Vukovarsko-Srijemska County behind the Republic of Croatia. The causes should primarily be sought in the structural characteristics and inadequate economy of Vukovar and the County in relation to their unused development potentials, which is certainly a serious limitation to their future development. This is discussed in more detail below.

3.Trends in the Entrepreneurship Sector

The analysis of the structural characteristics of the local economy in this section of the paper is based on annual financial reports of the Financial Agency (FINA) on business results of entrepreneurs (profittaxpayers) with headquarters in the Vukovar City area. It is important to point out that FINA data cannot provide a complete insight into the state of the local economy because they do not cover the business results of non-profit and budget organisations, craftsmenand freelancers, nor branch offices and production plants of entrepreneurs with registered headquarters outside of the City of Vukovar. However, given that local entrepreneurs have a very important role and position in the economic structure of every city, including Vukovar, through the calculation and analysis of specific economic indicators based on annual financial reports it is possible to identify the key structural characteristics of the economy of the City of Vukovar. This can also be argued by the fact that more than half of the employees in the local economy are currently employed in enterprises with headquarters in the City of Vukovar.

Regarding the above, below are the calculated and analysed gross value added (GVA)[4]indicators of entrepreneurs at the local, county, and national level whose trends are further explained by selected indicators.

[4] GVA is one of the basic indicators of economic activity and is calculated by deducting the value of the intermediate consiumption of products and services consumed in the production process from the gross value of the production of the enterprise, activity, sector, or the entire economy. GVA is a very important macroeconomic indicator, because, on the one hand, it measures the contribution of a single economic unit in the creation of gross domestic product (GDP), and on the other hand shows the abundance of sources from which primary incomes are generated in the observed economy (e.g. earnings, taxes, business surplusses, etc.).

Table 2 *Indicators of GVA of entrepreneurs, number of employees in enterprises and number of entrepreneurs with headquarters in the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia in the period 2012-2015 (current prices)*[5]

City of Vukovar	**2012**	**2013**	**2014**	**2015**	**Percentage change (%) 2015/2012**
GVA, '000 kuna	433.694,8	474.156,0	562.526,9	703.741,8	62,27
GVA per employee, kuna	90.296,7	108.976,3	137.168,2	162.227,2	79,66
Number of employees	4.803	4.351	4.101	4.338	-9,68
Number of entrepreneurs	378	390	408	435	15,08
Vukovarsko-Srijemska County	**2012**	**2013**	**2014**	**2015**	**Percentage change (%) 2015/2012**
GVA, '000 kuna	1.515.993,5	1.354.617,7	1.839.812,3	2.230.600,1	47,14
GVA per employee, kuna	91.634,0	83.371,4	113.596,7	129.558,0	41,39
Number of employees	16.544	16.248	16.196	17.217	4,07
Number of entrepreneurs	1.523	1.511	1.587	1.617	6,17
Republic of Croatia	**2012**	**2013**	**2014**	**2015**	**Percentage change (%) 2015/2012**
GVA, '000 kuna	128.215.763,5	133.828.286,3	139.177.653,0	144.792.414,5	12,93
GVA per employee, kuna	154.500,3	161.058,8	167.660,5	172.663,0	11,76
Number of employees	829.874	830.928	830.116	838.584	1,05
Number of entrepreneurs	97.254	101.191	104.470	106.569	9,58

Source: Authors' calculation based on data collected from annual financial reports of the FINA for 2012, 2013, 2014, and 2015

In 2015, total GVA of entrepreneurs with headquarters in the City of Vukovar amounted to 703,7 million kunas, which is nominally by 62,27% more than in 2012. In the same period, strong growth of GVA of entrepreneurs was also recorded in Vukovarsko-Srijemska County (47,14%), while growth of entrepreneurs' GVA at the state level was significantly less pronounced (12,93%). Trends of absolute values of the observed indicators at all observed territorial levels indicate that this segment of the economy started to generate growth rates already in times of the general economic crisis. However, when these trends are considered in the context of change in the number of employees and businesses in the entrepreneurial sector, it is notable that at the local level there are significantly different trends compared to the state and county level.

According to the data of FINA, in 2015, the number of employees in enterprises with headquarters in the City of Vukovar decreased by 9,68% in relation to 2012, while the number of enterprises with headquarters in the City of Vukovar increased by 15,08%. Such tendencies point to the presence of a passive restructuring process in the entrepreneurial sector of the City of Vukovar. A characteristic of such a process is focus on increasing cost-effectiveness of business activities and productivity by reducing the average size of the enterprise according to the number of employees, and not through investment in construction and development of new production capacities. This is also indicated by data on entrepreneurialinvestment into new long-term assets in the City of Vukovar which decreased by as much as 62,97% in the period from 2012 to 2015 (cf. Table 3). This leads to the conclusion that newly opened enterprises in the City of Vukovar are still at the incubation stage, or market survival stage; theytherefore do not contribute to creating new jobs in the local economy.

[5] 2016 was left out of the analysis because the annual financial report for this year did not include data on business operations in the Agrokor system for that year.

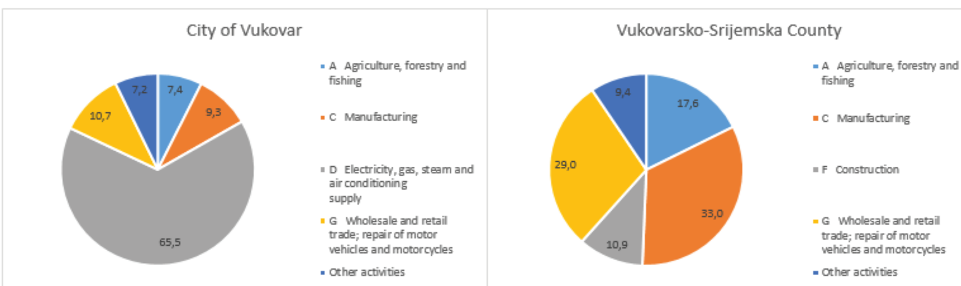
Table 3 *Investment in long-term assets by entrepreneurs with headquarters in the City of Vukovar, Vukovarsko-Srijemska County and the Republic of Croatia in the period 2012-2015 (current prices)*

Territorial unit	2012	2013	2014	2015	Percentage change (%) 2015/2012
City of Vukovar	180.742.249	148.273.013	40.731.442	66.934.577	-62,97
Vukovarsko-Srijemska County	410.868.318	385.576.136	187.096.105	570.673.994	38,89
Republic of Croatia	33.353.098.801	37.489.475.929	35.184.752.835	38.444.855.654	15,27

Source: Compiled by authors based on data collected from the annual financial reports of the FINA for 2012, 2013, 2014, and 2015

On the other hand, the opposite trend is present at the county and state level, where entrepreneurs managed to achieve productivity growth through increased employment and investment. For example, the number of employees in enterprises in the County increased by 4,07%, and the number of entrepreneurs by 6,17%, with a simultaneous increase in investment in new long-term assets of 38,89%. This indicates the existence of a structural disparity between the local and county sector of entrepreneurship, i.e. a low degree of economic integration among entrepreneurs in the City and the County area in the value creation chains. This can be demonstrated by their substantially different structure of total revenues according to basic economic activities (cf.Graph 1).

Graph 1 *The structure of total revenuesof entrepreneurs with headquarters in the area of the City of Vukovar and Vukovarsko-Srijemska County[6]in 2015 (in percentage, %)*



Source: Compiled by authors based on data collected from annual financial reports of the FINA for 2015

The structural disparity of entrepreneurial sectors in the local and county economy is a reflection of the lack of integrated and coordinated planning and management of the development of Vukovarsko-Srijemska County as a specific economic region, which is certainly one of the key reasons for its growing economic lag behind the Republic of Croatia. What is more, FINA datashow that a large part of active capacities of domicile entrepreneurs of the County are concentrated in the City of Vukovar, which currently hasinsufficient economic power toseriously generate growth and development of the county economy.[7]In this regard, enormous growth of GVA of the entrepreneurial sector in the City of Vukovar should be considered with great caution, especially from the aspect of economic sustainability of entrepreneurial business activities. The reason is the fact that entrepreneurship of the City of Vukovar is characterised by an extremely monolithic economic structure dominated by trade activities, that are by their nature extremely sensitive to the

[6]For a quality comparison, the structure of revenues for Vukovarsko-Srijemska County is based only on the revenues of those entrepreneurs with headquarters outside of the City of Vukovar.

[7]During the observed period, the City of Vukovar had the average share of 31,43% of GVA of entrepreneurs with headquarters in the County area, 26,58% of employees in enterprises with headquarters in the County area, and 25,81% of entrepreneurs with headquarters in the County area.

effects of cyclical and seasonal movements in the national economy. Therefore, this entrepreneurial structure can by no means be the basis of long-term economic stability.

Taking into account only the business results of entrepreneurs reported according to the 2007 National Classification of Activities (NKD 2007)[8], it is very difficult to identify the above-mentioned characteristics of the entrepreneurial sector in the City of Vukovar. Moreover, they show illogical changes in the structure of financial results of entrepreneurs, that may as such lead to incorrect conclusions about the true importance of certain activities in the local economy (cf. Table 4).

***Table 4** Total revenuesof entrepreneurs and total number of employees in enterprises with headquarters in the area of the City of Vukovar in 2012 and 2015 according to NKD 2007*

Activities	Average number of employees measured in full time equivalents					Total revenues				
	2012	Percentage structure (%)	2015	Percentage structure (%)	Percentage change (%) 2015/2012	2012	Percentage structure (%)	2015	Percentage structure (%)	Percentage change (%) 2015/2012
A	682	14,20	512	11,80	-24,93	478.572.124	17,62	448.541.584	7,40	-6,28
B	/	0,00	/	0,00	/	/	0,00	/	0,00	/
C	1.163	24,21	1.325	30,54	13,93	699.034.349	25,74	561.876.066	9,27	-19,62
D	62	1,29	92	2,12	48,39	310.026.158	11,41	3.969.731.550	65,47	1180,45
E	361	7,52	333	7,68	-7,76	77.221.518	2,84	64.674.682	1,07	-16,25
F	536	11,16	395	9,11	-26,31	147.888.557	5,44	113.929.197	1,88	-22,96
G	1.230	25,61	764	17,61	-37,89	782.766.233	28,82	650.016.044	10,72	-16,96
H	245	5,10	330	7,61	34,69	82.179.840	3,03	113.086.664	1,86	37,61
I	96	2,00	136	3,14	41,67	14.194.720	0,52	31.241.713	0,52	120,09
J	83	1,73	148	3,41	78,31	17.640.405	0,65	41.406.283	0,68	134,72
K	/	0,00	/	0,00	/	/	0,00	649.742	0,01	/
L	21	0,44	12	0,28	-42,86	5.838.964	0,21	10.459.707	0,17	79,14
M	222	4,62	165	3,80	-25,68	70.628.120	2,60	38.185.956	0,63	-45,93
N	30	0,62	31	0,71	3,33	15.896.522	0,59	4.308.999	0,07	-72,89
O	4	0,08	4	0,09	0	905.850	0,03	719.916	0,01	-20,53
P	15	0,31	23	0,53	53,33	2.474.535	0,09	4.902.257	0,08	98,11
Q	46	0,96	66	1,52	43,48	10.177.677	0,37	9.742.328	0,16	-4,28
R	/	0,00	/	0,00	/	/	0,00	/	0,00	/
S	7	0,15	2	0,05	-71,43	656.043	0,02	251.183	0,00	-61,71
Total	**4.803**	**100**	**4.338**	**100**	**-9,68**	**2.716.101.615**	**100**	**6.063.723.871**	**100**	**123,25**

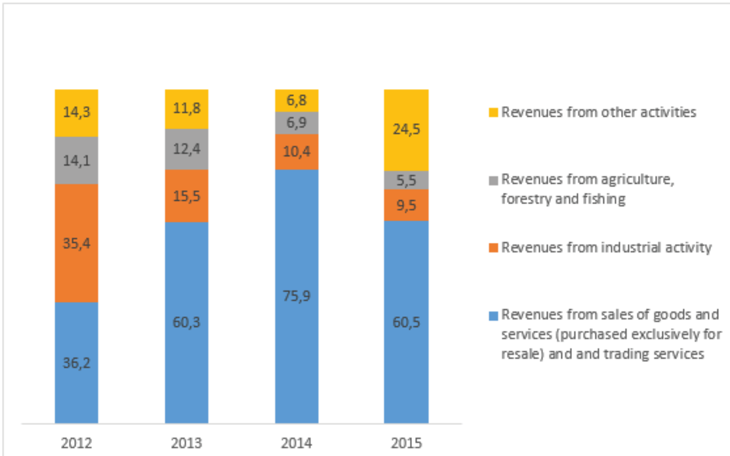
Source:Compiled by authors based on the data collected from annual financial reports of the FINA for 2012 and 2015

Despite the decline in the number of employees in local enterprisesover the observed period, the above table shows that both in 2012 and 2015 there was a very similar employment structure by activities. On the other hand, due torapid growth of total revenues, in only three years significant changes have been made to the relative importance of certain activities in the structure of total revenues of entrepreneurs in the area of the City of Vukovar. Activity **D** increased its share by as much as 54 percentage points, while activities **A**, **C**, and **G** which dominated the structure of total revenues in 2012 significantly reduced their share – activity **A** by 10,2 percentage points, activity **C** by 16,5, and activity **G** by 18,1 percentage points. However, activity **D** has a negligable share in employment in both observed years. For a fundamental understanding of why such sudden changes occur in aggregate financial results of the entrepreneurs of the City of Vukovar, it is first necessary to point out that businesses do not perform only the activity for which they were primarily registered, but a good part of their product or service range implies the performance of activities that, according to economic criterion, have significantly different characteristics than their primary activity. In this respect, for determination of real structural characteristics of the local economy, it is

[8]**A** Agriculture, forestry and fishing, **B** Mining and quarrying, **C** Manufacturing, **D** Electricity, gas, steam and airconditioning supply, **E** Water supply; sewerage, waste management and remediation activities, **F** Construction, **G** Wholesale and retail trade; repair of motor vehicles and motorcycles, **H** Transportation and storage, **I** Accommodation and food service activities, **J** Information and communication, **K** Financial and insurance activities, **L** Real estate activities, **M** Professional, scientific and technical activities, **N** Administrative and support service activities, **O** Public administration and defence; compulsory social security, **P** Education, **Q** Human health and social work activities, **R** Arts, entertainment and recreation, **S** Other service activities.

much more important to present total revenues according to sectoral classification, i.e. the type of activity on the basis of which these revenues were actually realised (cf. Graph 2).

Graph 2 *Sectoral structure of total revenues of entrepreneurs with headquarters in the area of the City of Vukovar in the period 2012-2015*



Source: Compiled by authors based on data collected from annual financial reports by the FINA for 2012, 2013, 2014, and 2015

The above graph clearly shows how business activities of entrepreneurs in the City of Vukovar are largely based on sales of products and services purchased exclusively for further sale and conduct of trade services. Since economic structures that are predominantly based on conduct of trade activities are generally rather procyclical, it is quite understandable why there are such great oscillations in the revenues of certain activities according to NKD 2007 nomenclature, but also why the economy of the City of Vukovar was so sensitive to negative trends in the national economy.

3. Conclusion and Guidelines forthe Stimulation of Economic Development of the City of Vukovar

The results of a comparative analysis of the selected indicators indicate further growth of economic lag of the City of Vukovar behind the Republic of Croatia. This is manifested through the sudden loss of jobs in the local economy, accelerated emigration of working-age population, reduction of laboursupply, reduction of entrepreneurial investment activity, decline in turnover of key entrepreneurial activities, and deterioration of the structural characteristics of the local entrepreneurial sector. Based on the above, the authors estimate that the current system of state measures and aid programmes has, in general, failed to achieve the desired developmental effects. Since in-depth assessment of the effectiveness of each of the measures used so far and detailed elaboration of new measures are beyond the scope of this paper, in accordance with the results of the conducted analysis, below is only the proposal of a conceptual framework for the redefinition of the existing state aid system and incentives for the City of Vukovar.

Consideringthat the above-mentioned economic problems and limitations of the City of Vukovar are closely interrelated and that there is a strong return interaction between them, the elaboration of the programme of measures in the framework of a new state aid system and incentives for the City of Vukovar primarily needs to be based on the principle of integrativeness. This means that all measures, including the activities, mechanisms, and instruments of their implementation,must be complementary and coordinated in terms of achieving growth and development of the local economy. In this process, it is necessary to emphasise the creation of initial measures that potentially have the greatest multiplier effects, i.e. that can achieve the greatest social benefit for the invested public resources. Taking into consideration the established economic characteristics of the City of Vukovar, it is the opinion of the authors that the public aid system and incentives for the City of Vukovar primarily need to be focused oncreating new jobs and increasing employment in the local economy through better valorisation and better use of local and regional development potential and providing preconditions for integrated development of new and strengthening of the existing activities, especially high-income activities.

The main advantage of establishing an integrated state aid system for the development of the local economy, which is predominantly aimed at increasing employment, is that in a relatively short period of time it can produce much wider developmental effects than a system that partially adresses certain economic issues (e.g. attracting investment, increasing exports, constructing entrepreneurial infrastructure, etc.) (i.e. UNACLA, 2013). For example, through the implementation of coordinated measures of active employment policy, fiscal policy, tax policy, investment policy, public tendering policy, state property management policy, and various sectoral and other development policies, a propulsive environment will be created through systematic and targeted government influence on employment growth in the City of Vukovar for the local population in terms of flexicurity, job career planning, achievement of a satisfactory income standard, and consequently the establishment of a family, which can certainly contribute to stopping negative demographic trends.On the other hand, significant increase in employment will have a direct impact on increasing local government revenues, and thus strengthening its fiscal capacityto implement specific local policies and public services, which can ultimately induce new growth, diversification and development of the local economy. Thus, it can be concluded that designing and conducting state aid approach to the local economy based on the creation of new jobs can significantly reduce the opportunity costs of achieving other thematic goals of local development.

REFERENCES

Financial Agency (FINA),***FINA's annual financial reports for the City of Vukovar, years 2012 2013, 2014, and 2015***

Financial Agency (FINA),***FINA's annual financial reports for the Vukovarsko-Srijemska County, years 2012 2013, 2014, and 2015***

Financial Agency (FINA),***FINA's annual financial reports for the Republic of Croatia, years 2012 2013, 2014, and 2015***

GRC – Government of the Republic of Croatia (2017): ***Regional Development Strategy of the Republic of Croatia for the period until the end of 2020***, Available at: https://razvoj.gov.hr/ (accessed 10January 2018)

Leigh, N. G. & Blakely, E. J. (2016): ***Planning local economic development: Theory and practice (6th edition)***, Thousand Oaks, CA: Sage Publications

Ministry of Regional Development and EU Funds

UNACLA - United Nations Advisory Committee of Local Authorities (2013): ***Job creation and local productivity,*** Report 2012/13 Available at: http://www.uur.cz/images/6-mezinarodni-spolupráce/HABITAT/Aktuality/Job-Creation-Report.pdf (accessed 15 January 2018)

https://esavjetovanja.gov.hr/ECon/MainScreen?entityId=5940 (accessed 18 January 2018)

Assistant professor Dražen Ćućić, Ph. D.
Faculty of Economics in Osijek
Department of National and International Economics
E-mail address: dcucic@efos.hr

M.Sc. Renata Petrović, doctoral student
Trade and Commercial School "Davor Milas" in Osijek
E-mail address: rencipet@gmail.com

Krešimir Herceg, M. Sc. Econ.
NGO (Association of Marketing Activities Lima)
E-mail address: kherceg@gmail.com

CHALLENGES AND POTENTIALS OF CYCLOTOURISM IN SLAVONIA AND BARANJA

IZAZOVI I POTENCIJALI CIKLOTURIZMA U SLAVONIJI I BARANJI

ABSTRACT

Tourism has significantly increased its business results in the Republic of Croatia since 2000 to date. Natural attractions, bio-diversity, rich historical and cultural heritage, climate, gastronomic and oenological offer, and the level of security are certainly a significant potential of Croatian tourism, attracting more and more tourists every year.Cyclotourism, as one of the forms of selective tourism, both in Europe and in the World is one of the tourism products with the greatest prospect of development.Its rich historical and cultural heritage, attractive and diverse natural environment, favourable climate, the security of the country, a large number of roads with lower intensity of motor traffic and other paths suitable for cycling provide Slavonia and Baranja with numerous comparative advantages for the development of cyclotourism.
Since Slavonia and Baranja, according to statistical data of the Ministry of Tourism, is a region with the lowest number of tourists and overnight stays in the Republic of Croatia, the primary objective of this paper is to set guidelines and define the steps for cyclotourism development in its area, i.e. key activities that will lead to increased consumption and increased number of overnight stays in the seasons from 2018 to 2020, and increased number of cyclotouristic arrivals by generating demand through the development and promotion of new products and services.
The research methodology is based on the secondary, desk research, as well as on the primary research through an online survey.
This paper seeks to define the vision and guidelines for cyclotourism development and to detect market segments in cyclotourism.

***Key words**: challenges, potentials, cyclotourism, Slavonia and Baranja.*

SAŽETAK

Na području Republike Hrvatske turizam je značajno podignuo svoje poslovne rezultate od 2000. godine do danas.

Prirodne atrakcije, bio raznolikost, bogata povijesno - kulturna baština, klima, gastro i eno ponuda, stupanj sigurnosti zasigurno predstavljaju značajne potencijale Hrvatskog turizma i iz godine u godinu privlače sve više turista
Cikloturizam, kao jedan od oblika selektivnog turizma, kako u Europi tako i u Svijetu predstavlja jedan od turističkih proizvoda s najvećom perspektivom razvoja. S obzirom na svoju bogato povijesno – kulturnu baštinu, atraktivan i raznolik prirodni okoliš, povoljnu klimu, sigurnost zemlje te veliko broj cesta s manjim intenzitetom motornog prometa i ostalih putova pogodnih za kretanje bicikala pružaju Slavoniji i Baranji brojne komparativne prednosti za razvoj cikloturizma.
Budući da je Slavonija i Baranja prema statističkim podacima Ministarstva turizma na začelju prema broju turista i noćenja u Republici Hrvatskoj, primarni je cilj ovoga rada postaviti smjernice i definirati korake za razvoj cikloturizmana njezinom području, odnosno ključne aktivnosti koje će dovesti do povećanja potrošnje i povećanog broja noćenja u sezonama od 2018. – 2020., povećanog broja dolazaka cikloturista generiranjem potražnje kroz razvoj i promoviranje novih proizvoda i usluga.
Metodologija istraživanja temelji se na sekundarnom istraživanju, ali i na primarnom istraživanju putem online ankete.
Ovim radom nastojimo definirati viziju i smjernice za razvoj cikloturizma te detektirati tržišne segmente u cikloturizmu.

Ključne riječi: *izazovi, potencijali, cikloturizam, Slavonija i Baranja.*

1. Introduction

When we talk and / or write about cyclotourism, in the foreground we mean a bicycle as a means of transport.It is difficult to say exactly when the first bike was designed, because there were several such attempts through history. For example, Leonardo da Vinci made the first sketches of the bicycle in the 15th century, but Karl von Drais is considered a modern bicycle maker, since he made the version of the bicycle ran by pushing with legs in the 19th century[1]. After him, there were several other creators, such as Ernest Michaux and his pupil Pierre Lallement.
People began to cross more and more distance using the bicycle, and in the United States the pioneer of a large cycling trip was Thomas Stevens, who travelled from San Francisco to Boston in 1884[2].
With the development of bicycles, cycling culture began to develop and in 1878 the Bicycle Touring Club was established, later called the Cyclists' Touring Club. It is the oldest cycling organization in the world[3].
Therefore, the bike we know today was born in the 19th century in Europe exclusively as a way of faster and easier transport of people, and today, except as a means of transportation, it is very widely used for sport and as a form of recreation. The basic concept of the bicycle since its creation has not changed significantly until today, except that due to technological progress better materials are used in its production and today's bicycles are safer to manage[4].
In Croatia, the beginning of the bike is tied to the name of Ivan Dirnbacher. He is considered to be the first bicycle maker in Croatia, and he also founded the First Croatian Bicycle Factory Ilyria (in 1895), which, according to his design, produced bicycles named Croatia and Ilyria with two identical wheels.
With the development of a bicycle, the infrastructure for bicycles, the manufacturing industry and bicycle parts industry have begun to develop; the whole industry has begun to grow.Bicycle riding over time has become part of the lifestyle, which ultimately resulted in bicycles being started to produce in

[1]http://www.ibike.org/library/history-timeline.htm (accessed on 15th January 2018)
[2]Schumacher, R. (2004): ***Around the World on a Bicycle***, Volume I
[3] CTC - CTC is the UK's national cyclists' organisation.
[4]Anzulović, J. (2013): ***Bicikl kao osnovno prijevozno sredstvo mlađe populacije u ruralnoj sredini***. Proceedings of the Polytechnic of Međimurje in Čakovec

different price ranges. With the use of bicycles, awareness of sustainability and environmental conservation has begun to develop. An increasing number of people began to use a bicycle during the holiday to travel to their preferred destinations, resulting in increased demand and the development of a new sector in tourism, so called cyclotourism.

Cyclotourism is today the fastest growing branch of tourism in Europe with a tendency of growth. It can be defined as a journey between places using a bicycle for recreation and cycling is in this case an integral part of a tourist experience[5].In any case, cycling must be one of the main components or reasons for traveling outside of your place of residence.

The number of cyclotourists increases every year, and according to UNWTO estimates in Europe there are currently more than 60 million active cyclists, 60% men and 40% women, in different age groups[6].

In order to better understand the notion of cyclotourism, it is necessary to define who is a cyclotourist?

Taking intoaccount several studies in the area of cyclotourism, several key features of cyclotourists are:[7]

• a person with above average education and income
• there are more men than women
• aged 40-60 years
• love nature
• traveling in pairs or in smaller groups
• often travel in their own arrangement

According to surveys collected by Sustrans[8], about 41% of cyclotourists travel alone, while nearly 50% of them travel in groups of two or three. An important fact for cyclotouristic destinations is that the cyclotourists strive to be lightweight, so they don't carry heavy things, but only the basics. Accordingly, there is a need for increased consumption, and according to the data an average cyclotourist spends around 53 euros per day[9].

The cyclotourists can be divided into the following categories according to the CBI[10]:

• irregular
• occasional
• frequent
• enthusiasts

The main motive for cyclotouristic travel is active or passive participation in cycling, and additional motives that influence demand are, according to the Croatian Tourism Institute, participation in competitive cycling and watching cycling events.

Since the forms of cyclotourism are defined by the duration of the holiday, it is possible to differentiate:

• one-day cyclotourism - the most common form of cyclotourism, typical for domestic tourists, i.e. daily hikers
• holiday cyclotourism - a form of cyclotourism in which cycling is one of the activities of tourists during the holidays
• active cyclotourism - cycling is the main motive of travel[11]

---

[5] EP (European Parliament) (2009): ***The European Cycle Route Network – EuroVelo***. Study. DG for Internal Policies. Committee on Transport and Tourism. Brussels

[6]http://www.mint.hr/UserDocsImages/arhiva/151014_akcijski_cikloturizam.pdf (accessed on 15th January 2018)

[7] CBI Market Intelligence, (2015): ***CBI Product Factsheet: Cycling tourism from Europe,***Netherland

[8]https://www.sustrans.org.uk/ (accessed on 15th January 2018)

[9]http://www.mint.hr/UserDocsImages/arhiva/151014_akcijski_cikloturizam.pdf (accessed on 15st January 2018)

[10]CBI Market Intelligence, (2015): ***CBI Product Factsheet: Cycling tourism from Europe,*** Netherland

[11]http://www.mint.hr/UserDocsImages/arhiva/151014_akcijski_cikloturizam.pdf(accessed on 15st January 2018)

As for cyclotouristic trips, about 90% are organized independently, and only 10% through travel agents, which says a lot about the importance of local communities in a particular area[12].

A large number of cyclists plan their trips according to different criteria, and one of the most important is whether or not EuroVelo[13]route is passing through the desired destination.EuroVelo strives to set standards on the routes and to develop the tourist offer (culture, nature and historical heritage) for a completely new market. It currently has 15 routes, with 45,000 km of cycling paths, and when it is completed, the project will contain more than 70,000 km of cycling paths[14].

2. Analysis of the State of Cyclotourism in Slavonia and Baranja

According to the data of cycling associations Pedala.hr and Biri.hr there are as many as 13.000 kilometres of routes in Croatia, with the emphasis on Istria as the zone of higher concentration of the routes and as the most important cyclotouristic destination. Other regions of greater importance are the Zagreb area, North-western Croatia (especially Međimurje) and Eastern Croatia (especially the Croatian Danube Region).

Accommodation, catering and service facilities for cyclotourists are relatively poorly developed, especially in the continental part of Croatia, where there are plenty of areas with very limited accommodation options and modest or no catering and service offerings.

Slavonia and Baranja are traffic-wise very well connected, with a large number of local roads with lower intensity of traffic which are ideal for cycling. One of the biggest benefits for further development of cyclotourism in the area of Slavonia and Baranja are certainly the EuroVelo routes:

- EuroVelo 6
- EuroVelo 13

Image 1 *EuroVelo 6*

Source: http://www.eurovelo.com/en/eurovelos/eurovelo-6 (accessed on 31st March 2018)

EuroVelo 6 (The Atlantic - The Black Sea) is a bicycle route of 3653 kilometres passing through 10 European countries, connecting 4 UNESCO world heritage sites and 6 European rivers. It comes into the Republic of Croatia from the direction of Mohacs, Hungary and enters the Duboševica border crossing (Municipality of Draž, Osijek-Baranja County), passes through Baranja (Nature Park Kopački rit, settlements of Kopačevo and Bilje) towards Osijek, the mouth of the Drava River into the Danube (near Aljmaš) and settlement of Dalj, going further to Vukovar and Ilok (Vukovar-Srijem County) where it leaves Croatia and continues through Serbia. The total length of EuroVelo 6 route through Croatia is 146 kilometres[15].

---

[12]http://www.mint.hr/UserDocsImages/arhiva/151014_AP_ciklotuirizam.pdf (accessed on 15th January 2018)

[13]EuroVelo is the European network of cycling routes crossing Europe, a project of the European Cyclists' Federation.

[14]EP (European Parliament) (2009): ***The European Cycle Route Network – EuroVelo***. Study. DG for Internal Policies. Committee on Transport and Tourism. Brussels

[15]https://cikloturizam.hr/eurovelo/ (accessed on 16st January 2018)

Image 2 *EuroVelo 13*

Source: https://cikloturizam.hr/eurovelo/eurovelo-13 (accessed on 31st March 2018

EuroVelo 13 (Iron Curtain Route) is a 10,400 km long bicycle route, and it is also the longest of all EuroVelo routes. It goes through 20 European countries, connects 14 UNESCO World Heritage Sites and 3 European seas. It comes into the Republic of Croatia from Hungary and enters the border crossing of Gola (Koprivnica-Križevci County), passes through the settlement of Sopje (Virovitica-Podravina County), goes to DonjiMiholjac, Petlovac and Batina (Osijek-Baranja County) and continues through Serbia. The total length of EuroVelo 13 route through Croatia is about 240 kilometres[16].

According to the Institute of Tourism of the Republic of Croatia, the third EuroVelo route, whose designation is still unknown, is being prepared, and it will pass through the international route Sava, towards the Republic of Serbia, which is another cyclotouristic potential of the region, that is, the destination.

For all five counties of Slavonia and Baranja (Osijek-Baranja, Vukovar-Srijem, Požega-Slavonia, Virovitica-Podravina, and SlavonskiBrod-Posavina), operational plans for the development of cyclotourism have been developed, with specific guidelines, priorities and specific actions in future markings of specific local routes.

[16]Ibid.

This is an important first step in defining and building the starting points in the development of micro-destinations which are in this case the counties.
The first steps are visible through information on the lengths of cycling routes and planning the construction of the same:
1. Virovitica-Podravina County has 700 km of bicycle routes with planned investment in 300 km of new ones[17]
2. SlavonskiBrod-Posavina County has paved about 400 km of capillary cycling routes by the end of 2017, with planned 400 km of new routes by the end of 2018[18]
3. Požega-Slavonia County has 886 km of cycling routes[19]
4. Osijek-Baranja County has around 275.5 km of cycling routes[20]
5. Vukovar-Srijem County has around 245 km of cycling routes[21]

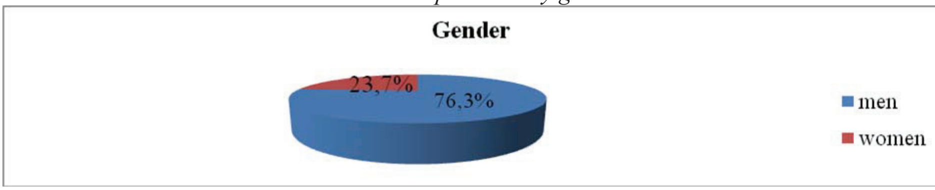
All the aforementioned brings new stakeholders into the development of cyclotourism, which are the following:
1. Ministry of Tourism of the Republic of Croatia
2. Slavonian Counties (Osijek-Baranja, Vukovar-Srijem, SlavonskiBrod-Posavina, Požega-Slavonia and Virovitica-Podravina)
3. County and City Road Administration
4. Local Tourist Offices
5. Croatian Forests
6. Croatian Waters
7. Police Administrations in the area of Slavonia and Baranja
8. Real sector - hotels, accommodation providers, bicycle service providers, gastronomic and oenological services
9. Bicycle associations

2.1. Analysis of the Results of Research on the Development Potential of Cyclotourism in Slavonia and Baranja

The survey was conducted in the period from 8th August 2016 to 4th September 2017 through an online survey questionnaire. A total of 138 respondents participated in the study. Since the questionnaire was available online, respondents were randomly selected and / or volunteered to fill out the questionnaire.
Through this research, we have tried to examine how and in what way tourists perceive the challenges and potentials of cyclotourism in Slavonia and Baranja.
The questionnaire consisted of 27 questions, of which 23 were closed type and 4 open type questions (questions 3, 9, 10 and 18) where respondents should state their answers.
Out of the 19 closed questions, the three questions were two-fold (questions 1, 11 and 12), where the examiners offered a choice between two options - yes or no, or in relation to gender - man or woman.
There were questions of closed type in the questionnaire (2, 5, 6, 7, 8, 13, 14, 16, 19, 20, 21, 22 and 23) and Likert's scale was used for questions 4, 15 and 17.

[17] http://www.glas-slavonije.hr/348274/4/Operativni-plan-razvoja-cikloturizma (accessed on4th April 2018)
[18] http://www.bpz.hr/_Data/Files/1802068587671.pdf (accessed on 15st March 2018)
[19] http://tzzps.hr/razvoj-cikloturizma-na-podrucju-pozesko-slavonske-zupanije/ (accessed on 15st March 2018)
[20] http://www.obz.hr/hr/pdf/2018/8_sjednica/08_2_operativni_plan_razvoja_cikloturizma.pdf (accessed on 15st March 2018)
[21] https://cikloturizam.hr/wp-content/uploads/2018/01/Operativni-plan-razvoja-cikloturizma-Vs%C5%BE.pdf (accessed on 15st March 2018)

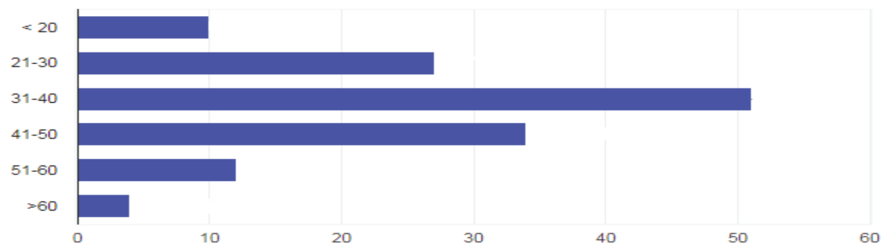
Chart 1 *Respondents by gender*



Source: made by the authors

According to the gender of the respondents (chart 1) 23.7 % of respondents were womenwhile 76.3 % were men.

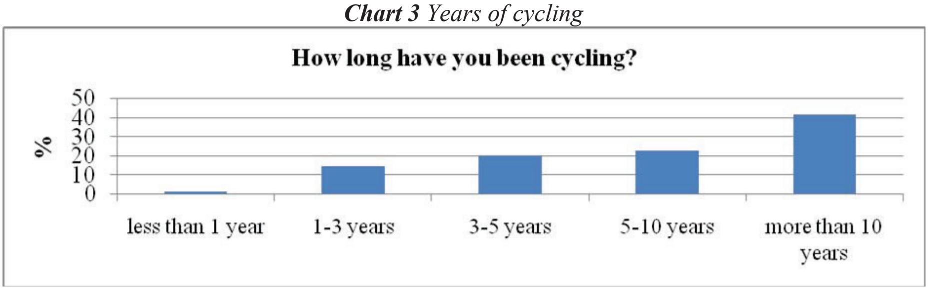
Chart 2 *Age of the respondents (men and women)*



Source: made by the authors

According to the age of respondents (Chart 2), 52 respondents were between 31 and 40 years of age, 34 respondents 41-50, 27 respondents 21-30, 12 respondents 51-60, 10 respondents under 20 years and 4 respondents over 60 years of age.

Chart 3 *Years of cycling*



Source: made by the authors

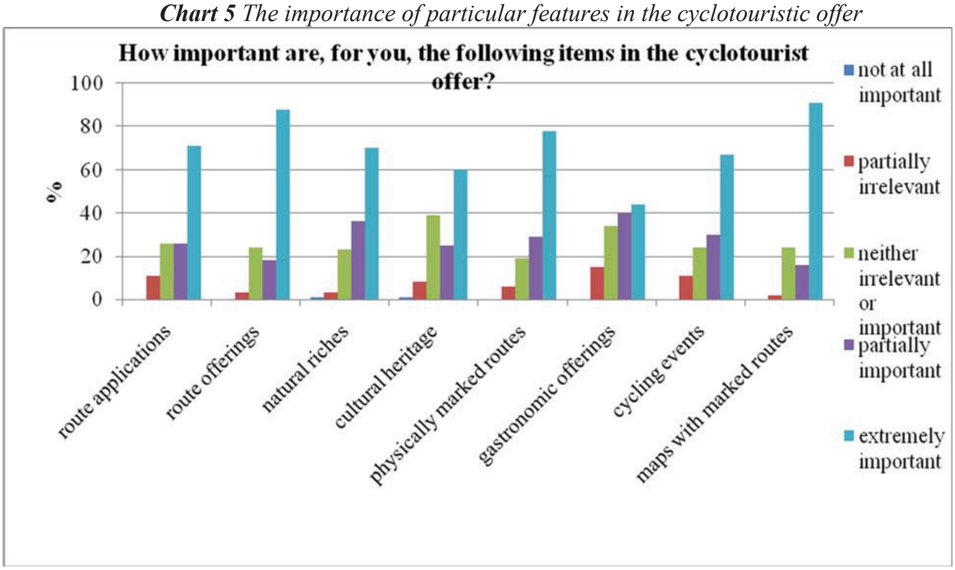
According to years of cycling (Chart 3), 42 respondents have more than 10 years of cycling experience, 23 respondents have between 5 and 10 years of cycling experience, 20 respondents have between 3 and 5 years of bicycling, 15 respondents have between 1 and 3 years of cycling while 2 respondents have less than 1 year of cycling.

Chart 4 *The disadvantages of cycling offerings*

Source: made by the authors

According to the lack of cycling offerings in their place of residence (Chart 4), 71% of respondents believe that the inadequate infrastructure is the greatest lack of cycling offerings, 48% of respondents believe that the non-strategic approach to the route planning is the greatest lack of cycling offerings, 41% of respondents believe that unmarked tracks are the greatest lack of cycling offerings, 24% of respondents believe that bad traffic signs are the greatest lack of cycling offerings while 5% of respondents believe that the other reasons are the greatest shortcomings in cycling offerings.

Chart 5 *The importance of particular features in the cyclotouristic offer*



Source: made by the authors

According to the importance of particular features in the cyclotouristic offer (Chart 5), 91% consider the maps and the marked routes to be of particular importance in the cyclotouristic offer, 88% of the respondents believe that the route offers are very important factors in the cyclotouristic offer, 78% of the respondents consider physically marked routes particularly important in cyclotourism, 71% of respondents believe that route applications are extremely important in cyclotourism, 70% of respondents believe that natural riches are extremely important in cyclotourism, 67% of respondents believe cycling events are particularly important in cyclotourism , 60% of respondents believe that cultural heritage is extremely important in cyclotourism, while 44% of respondents believe that gastronomic offer is extremely important in cyclotourism.

Table 1 *SWOT analysis of cyclotourism in Slavonia and Baranja*

STRENGTHS	WEAKNESSES
• attractive space • diversity of landscapes • preservation of nature • rich cultural and historical heritage • a large number of roads with lower intensity of traffic • good traffic position • hospitality of the population • availability of EU funds	• insufficiently developed cycling infrastructure • poor possibilities for transportation of bikes by bus • poor traffic and cyclotouristic signalling • lack of professional knowledge • poor accommodation and catering offer • insufficient level of promotion and recognition of Slavonia and Baranja as a cycling destination
OPPORTUNITIES	**THREATS**
• status of Slavonia and Baranja as an undiscovered destination • organization of EuroVelo routes and national routes • the possibility of using EU funds for the purpose of cyclotourism development • The Tourism Strategy of the Republic of Croatia indicates cyclotourism as an extremely important segment • continuous professional training in the field of cyclotourism • development of accompanying content and activities for cyclists • reorientation from seasonal to year-round tourism	• degradation of the natural environment by building • lack of funds for the protection of cultural and natural heritage • insecurity of cyclists on the roads • limited resources for development of infrastructure and promotion • insufficient cooperation of local communities and counties • fiscal and regulatory policy not adapted to the requirements of cyclotourism development

Source: made by the authors

3. Conclusion

Cyclotourism in Croatia has a growth trend, especially in leading tourist regions such as Istria and Dalmatia (due to the general increase in the number of tourists). Continental regions note a slight, almost negligible increase in the number of tourists.

Guided by the results of the survey, respondents believe that the two biggest problems of cyclotourism development are insufficient infrastructure and unmarked routes.These problems are solved with new tenders that have already provided operational plans for the development of cyclotourism in a large number of continental counties, including all five of them in Slavonia and Baranja.

For the first time in 2017, a planned approach to the development of cyclotourism on the continent has taken place, mainly thanks to the Ministry of Tourism competition. In the first phase, all counties made an Operational Plan and started to lay out and mark capillary routes.Also, printed and online maps are produced for cyclotouristic purposes.On that way, the planned infrastructure for the development of cyclotourism in Slavonia and Baranja is being developed for the first time.

With the planned third EuroVelo route, the destination would be surrounded by three EuroVelo routes, which provides an excellent position of Slavonia and Baranja in a cyclotouristic world with a multitude of capillary routes between.

We believe that these are great preconditions for development and private investments that want to invest in the destination (e.g. Valamar in Kvarner and Istria, and St. Martin's Spa in Međimurje).Bizovačketoplice Spa represent one of the largest investments in tourism in the region, which will definitely be the initiator of the destination branding.

It is evident because of frequent groups of cyclists who are staying in family accommodation and enjoy bicycle riding through Kopački rit, Tikveš, Zlatnagreda... In Karanac, the best Croatian destination for rural tourism in 2015, cyclists make an increasing number of tourists.

Much of Slavonia and Baranja is a rural area with a rich natural and cultural heritage. According to the guidelines of the European Union and the Government of the Republic of Croatia, rural development includes the sustainability and preservation, protection and sustainable use of the environment, landscape, natural and cultural heritage. According to statistics on the cyclotourists' preferences, these are all features that the average cyclotourist visits and seeks, so that all this natural and cultural wealth could be included in the development of cyclotourism.

Slavonia and Baranja Region has two nature parks (Papuk and Kopački rit), it is surrounded by three large rivers (Danube, Sava and Drava), has numerous zero-category monuments, and rich intangible heritage. All of these features allow a potential cyclotourist a numerous content on a relatively small geographic area.And it offers all kinds of terrain in one place - lowland, mountainous and flat through the road, macadam and forest path.

We think that Slavonia and Baranja has enormous potential in cyclotourism, with the continuation of further development of infrastructure. Here we primarily think of the more demanding stages of building cyclotouristic infrastructure (isolated cycling paths). Recommendations are moving in the direction of carrying out significant training for stakeholders in tourism to emphasize the importance of cyclotourism.In addition, it is necessary to intensify communication between the public, non-profit and private sectors in order to achieve synergy in the cyclotouristic development efforts.

Slavonia and Baranja has to be branded on the domestic and foreign markets as one destination instead of the five counties that are doing it each for themselves. This would save promotional costs and give tourists much more content in the area of a region that is optimal for cycling.

REFERENCES

Anzulović, J., Šporčić, M., Crnjak, P. (2013): ***Bicikl kao osnovno prijevozno sredstvo mlađe populacije u ruralnoj sredini***. Proceedings of the Polytechnic of Međimurje in Čakovec, Čakovec;

Eijgelaar, E., Peeters, P., Piket, P. (2013): ***European Cycle Tourism: A Tool for Sustainable Regional Rural Development***. Agroinform Publishing House, Budapest;

Klarić, Z., Kos, G., Krešić, D., Miličević, K., (2015): ***Akcijski plan razvoja cikloturizma***. Institutzaturizam, Zagreb;

Makarić, A.-M.,(2015): ***Razvoj cikloturizma u Republici Hrvatskoj***. Final paper. Polytechnic of Međimurje in Čakovec, Čakovec: Tourism management and sport;
Manton, R., Hynes, S., Clifford, E. (2016): ***Greenways as a Tourism Resource: A Study of User Spending and Value***. Tourism Planning & Development, Volume 13, 2016 - Issue 4, Pages 427-448, USA;
Mayne, K. (2014): ***A Cycling Investment Plan for Europe, „A Response by the Cycling Sector to the EU's "Investment Plan for Europe"***. European Cyclists'Federation, Brussels;
Schumacher, R. (2004): Around the World on a Bicycle, Volume I
Vrećar Mišćin, L., Rigo, R., (2017): ***Biciklistički vodič – Središnja Hrvatska, Slavonija, Baranja i zapadni Srijem***. Mozaik knjiga, Zagreb;
Zovko, I., (2013): ***The Values of Cycling Tourism***. Transform Scotland, Edinburgh;
Weston, R. et al. (2012): ***The European Cycle Route Network – EuroVelo***. European Parliament, Brussels;
CBI Market Intelligence, (2015): ***CBI Product Factsheet: Cycling tourism from Europe,*** Netherland
European Parliament (2009): ***The European Cycle Route Network – EuroVelo***. Study.DG for Internal Policies.Committee on Transport and Tourism. Brussels
http://ekonomskiportal.com/cikloturizam-kada-turizam-postane-ciklo/(accessed on 15thJanuary 2018)
http://www.ibike.org/library/history-timeline.htm (accessed on 15thJanuary 2018)
http://www.mint.hr/UserDocsImages/arhiva/151014_akcijski_cikloturizam.pdf (accessed on 15th January 2018)
https://www.sustrans.org.uk/ (accessed on 15th January 2018)
https://cikloturizam.hr/eurovelo/ (accessed on 31st March 2018)
http://www.glas-slavonije.hr/348274/4/Operativni-plan-razvoja-cikloturizma (accessed on 4th April 2018)
http://www.bpz.hr/_Data/Files/1802068587671.pdf (accessed on 15th March 2018)
http://tzzps.hr/razvoj-cikloturizma-na-podrucju-pozesko-slavonske-zupanije/ (accessed on 15th March 2018)
http://www.obz.hr/hr/pdf/2018/8_sjednica/08_2_operativni_plan_razvoja_cikloturizma.pdf (accessed on 15th March 2018)
https://cikloturizam.hr/wp-content/uploads/2018/01/Operativni-plan-razvoja-cikloturizma-Vs%C5%BE.pdf (accessed on 15th March 2018)
https://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/439893.pdf(accessed on 15th March 2018)
http://www.htz.hr/sites/default/files/2016-11/Turizam-u-brojkama-2014.pdf (accessed on 15thJanuary 2018)
http://sdt.unwto.org/(accessed on 15thJanuary 2018)

Assistant professor Ph.D. Dražen Ćućić
Faculty of Economics in Osijek
Department of National and International Economics
E-mail address: drazen.cucic@efos.hr

Jesenka Ricl, mag.art./univ.spec.oec.
RICL Counseling and Services
E-mail address: obrt.ricl@gmail.com

Assistant professor Ph.D. Mladen Pancić
Faculty of Economics in Osijek
Department of Marketing
E-mail address: mladen.pancic@efos.hr

CHALLENGES AND POTENTIALS FOR ECO-TOURISM DEVELOPMENT IN EASTERN CROATIA

IZAZOVI I POTENCIJALI RAZVOJA EKO TURIZMA U ISTOČNOJ HRVATSKOJ

SAŽETAK

Turizam je jedna od najsnažnijih gospodarskih grana u Republici Hrvatskoj. Prema podacima eVisitora, 2017. godine u Hrvatskoj je ostvareno 18,6 milijuna dolazaka i 102 milijuna noćenja. U prvih devet mjeseci 2017. godine prihodi od turizma iznosili su 8,724 milijarde eura, što u odnosu na isti period prošle godine predstavlja rast od 10 %, odnosno 822 milijuna eura, ističe HNB. Prema procjenama Državnog zavoda za statistiku, turizam u Hrvatskoj čini između 19 – 20% ukupnog BDP –a.
Ovaj rad usmjeren je ka određivanju izazova i potencijala razvoja jednog od oblika selektivnog turizma - eko turizma na području istočne Hrvatske. U radu su korišteni rezultati anketnog istraživanja pod nazivom „Razvoj eko turizma na području istočne Hrvatske“ te rezultati dubinskih intervjua kao relevantni podaci za isticanje preporuka dionicima u turizmu kako upravljati eko rutom.

Ključne riječi: *eko turizam, ruralni turizam, održivi razvoj, turistička ruta.*

ABSTRACT

Tourism is one of the most powerful branches in the Republic of Croatia. According to eVisitor data, in 2017 in Croatia, was realized 18.6 million arrivals and 102 million overnights. In the first nine months of 2017, tourism revenues amounted to 8,724 billion Euros, which represents a growth of 10% and 822 million Euros in relation to the same period of last year, the Croatian National Bank points out. According to estimates by the Croatian Bureau of Statistics, tourism in Croatia amounts to 19% of total GDP.
This paper focuses on determining the challenges and potential of development of one of the forms of selective tourism - eco tourism in the eastern part of Croatia.. The paper uses the results of the survey entitled "Development of Eco tourism in the area of Eastern Croatia" and the results of

interviews as relevant data for highlighting the recommendations for the stakeholders in tourism how to manage the eco-route.

Key words: *eco tourism, rural tourism, sustainable development, tourist route.*

1. Introduction

According to the World Tourism Organization (WTO) foreknowledge, the number of tourists who will visit tourism destinations in the geographical area of Europe will double in the next two decades. Tourism trends point to changes in demand and increased competition in the tourist market resulting in growing differentiation of tourism products and services. The mass tourism industry is experiencing major changes and there is an increasing number of tourists looking for new destinations and different forms of tourism. What they are looking for is an authentic experience in a local receptive community, flanked by local cultural and natural heritage, tradition and customs. In this paper the authors give attention to travellers who are ecologically aware and who are looking for the destinations with offer based on tourist service and products in harmony with the natural environment, sustainable and ecological development and smart growth. The geographical area of Slavonija, Baranja and Srijem is rich in natural resources, such as Nature Park Papuk and Nature Park Kopački Rit, river flows of Drava, Danube and Sava. The cultural landscape of the area and the way of living in rural areas are extremely valuable resources for creating a competitive eco tourism offer.

2. Eco tourism – new opportunities

Ecotourism is a conscientious journey to destinations rich in natural resources, where travelers care about the environment and the well-being of the local community. Ecotourism is a sub-category of sustainable tourism (Wood Epler M. 2002). Ecotourism contributes to the preservation of diversity, maintains the well-being of the local community, interprets and teaches, is organized for smaller groups of passengers, requires less use of non-renewable natural resources, encourages the inclusion of local people and businessmen through cross-sector cooperation especially in rural areas. Eco tourism plays a major role in preserving natural heritage and at the same time contributes to the quality of life of local communities living on the principles of sustainability. The development of tourism offer in the field of eco tourism requires planning and management of products and services, especially considering the development of the tourist route. Ecological principles clearly define the underlying development goals of the destination, which are the prevention of a massive number of tourists, the reduction of the impact on the environment and the loss of the biological and cultural identity of the destination. In order for the eco tourism to be properly developed it is necessary that the competent ministries, as well as the units of local self-government, adopt laws that control spatial management, with systematic and controlled use of all resources. On the other hand, the value of a tourist experience on the destination of eco tourism is emphasized through the destination "policy". Also, through the inclusion of local communities in rural areas in tourism, various benefits of economic recovery are gained.

When developing eco-destination it is necessary (Wood Epler M. 2002 p.14):

- to manage the destination in such a way that impacts of eco tourism development on nature and culture are minimized,
- to educate travelers about the importance of environmental protection, as well as stakeholders in tourism on the importance of cross-sectoral co-operation and carrying out activities in accordance with ecological principles,

- to define a plan for the management of tourist zones and a plan for the management of tourist destinations,
- to maximize the economic benefit of host countries, especially local communities residing in rural or legally protected areas,
- to ensure that tourism development does not exceed the development capacities of the community and the environment especially if there are defined parameters,
- to use infrastructure developed in harmony with nature in order to reduce the harmful impact of fossil fuels and preserve the flora and fauna of natural and cultural landscapes.

2.1 Development of eco-destination of Eastern Croatia

Statistical data in the last decade state that tourism in Croatia is one of the leading economic activities, especially those from eVisitor[1] monitoring system, showing numbers of arrivals and overnights stays by foreign and domestic tourists in the past two years. Comparison of statistical data in the period from 1 January 2016 to 31 December 2017 shows an increase in the number of arrivals of domestic and foreign guests. Thus, in 2017, the total number of arrivals was 231,375 in Osječko Baranjska County, Brodsko Posavksa County, Vukovarsko Srijemska County and Požeško Slavonska County which is an increase of 30,278 arrivals compared to 2016. In 2017 there were 434 919 overnights stays, 55.098 more than in 2016.

Table 1 *Statistical data on the number of arrivals and nights of domestic and foreign tourists in Osječko Baranjska County, Brodsko Posavska County, Vukovarsko Srijemska County and Požeško Slavonska County*

Osječko baranjska County				
Tourist	Arrivals 2017.	Arrivals 2016.	Overnight stays 2017.	Overnight stays 2016.
Domestic	60,825	60,002	118,055	123,025
Foreign	35,502	31,541	83,692	72,178
Vukovarsko srijemska County				
Domestic	72,477	54,395	118,589	79,804
Foreign	20,557	17,074	32,830	31,342
Brodsko posavska County				
Domestic	11,608	11,268	22,408	21,136
Foreign	17,006	15,301	28,383	24,895
Požeško slavonska County				
Domestic	9,726	8,393	22,107	20,315
Foreign	3,673	3.123	8,855	7,126
Total:	**231,375**	**201,097**	**434,919**	**379,821**

Source: eVisitor, County Tourist Boards (accessed on 15th January 2018)

The effort of stakeholders in tourism in all four counties is to improve the continental tourist destination of Eastern Croatia in a way that offers are based on quality tourist products and services

[1] The tourist information and logging information system is a unique information system that connects functionalities to all tourist communities in the Republic of Croatia and is accessible via the Internet without the need for special installation on the computer. The eVisitor uses about 300 tourist boards, 60,000 accommodation providers, the Croatian National Tourist Board, Croatian Tourist Board's Representative Office, Ministry of Tourism, Ministry of Administration, Ministry of the Interior, Customs Administration and Inspection, Central Bureau of Statistics and other participants.www.evisitor.hr

placed throughout the year in selective tourism packages, including eco tourism. The geographic area of Slavonija, Baranja and Srijem is still a relatively new eco destination with offer based on:

- programs for visitors of Kopački rit Nature Park, the Drava - Mura area as part of the international network of biosphere reserves and UNESCO Geo-park Papuk,
- activities of stakeholders in tourism along river flows of the Drava, Danube and Sava,
- tourist attractions of a natural landscape from fertile lowlands to hills and mountains,
- picturesque villages and farm family farms, cultural heritage, traditional trades and customs, etc.

Ecological production is based on the existing fertility of the soil, which allows family farms to develop the agricultural activity, as well as tourist offers - accommodation and/or catering offerings. The offer of rural or agro tourism is directly related to eco tourism due to:

- development in rural areas that allows guests to stay in nature with an authentic experience of rural life,
- placement of their own or adjacent OPG eco products by achieving a more competitive price without the costs of distribution or mediation, or forest products, self-propagating plants, fungi, snails, frogs, fish and game that OPG members catch,
- the possibility of opening tastings, excursion sites, rooms or suites, rural holiday houses, camps or camping grounds,
- tourist offer such as taking part in agricultural activities (fruit and vegetable harvesting, hunting and fishing), outdoor activities (horse riding, horseback riding, hiking, cycling), implementation of educational workshops related to traditional crafts, acquaintance with local customs and cultural heritage, in particular the non-material.[2]

Despite the natural conditions for the development of ecological agriculture, Croatia belongs to a group of rare European countries where this aspect of agricultural production is still underdeveloped. Trends talk about "healthy food" that is part of the life of a modern man, but there is still a small number of registered producers whose products bear the mark of "eco products".

2.1.1 Tourism offer of Papuk Nature Park

UNESCO World Geo-parks seek to raise awareness of geo-diversity and promote best practices of protection, education and tourism. The area of the Papuk Nature Park is protected under the Nature Protection Act. The Park Educational Department educates visitors about the importance of the park, as well as the rules of behaviour for the purpose of preserving the original biological, geological and cultural values of the protected area. Educational paths interpret the natural and cultural-historical features of the area. Through the educational boards set up along the path and by expert guidance from Nature Park employees, visitors can get acquainted with relief, hydrology, vegetation, flora and fauna, geology and history of this area. Offers are provided by education - nature schools for group or individual visits. Also, on the official web site of the Public Institution of the Papuk Nature Park there are numerous educational and informative publications related to the presentation of the flora and fauna of the Park, outdoor activities and cultural heritage in the Park and its surroundings. Staying in the nature attracts a number of people who are looking for an active vacation. There are several marked and unmarked trails on Geo-park Papuk where visitors can walk, hike or jog with maps, GPS or smart phone, with the opportunity to explore rich geological heritage of the Park. In addition, it is possible to ride a horse, paraglide and hike or ride mountain bikes. The underground world of the Papuk geo-park is rich but sensitive to human influences and visit to the caves is allowed only with the special permit of the Ministry for the purpose of scientific research. At the

[2] Ministry of Agriculture of Republic of Croatia published a Rule Book of additional activities at real estate family farms.

beginning of 2018, the Papuk Public Authority of Nature Park started charging a single ticket to the Park, which will result in a better insight into the number of visitors per year. According to the Director of the Park, Alen Juranec, the biggest challenge of developing additional product offerings and eco-tourism services outside the Park is that the local population does not recognize the potential of the Park. Juranec emphasizes the success of the biggest sports event taking place in the area of Papuk Nature Park, the Papuk Trek and Trail race, organized by Papuk Nature Parks, Sport Club Baraber Belišće[3], Velika Municipality and Tourist Board of Velika Municipality, In November 2017 the total number of registered competitors/runners was 687. During the event, the contestants use the services of local renters and other catering services, which resulted in renting all the available accommodation, as well as increased consumption of local cuisine offer. Members of the family farms state that during the event there was a great demand for eco-products and that entrepreneurs in tourism generate large incomes.

2.1.2 Green Baranja – "Greener" tourist offer through innovative products in natural and landscape heritage

Association for the Protection of Nature and Environment Green Osijek is a non-profit association of citizens established in 1995 in Osijek with the aim of activating citizens for the protection of nature and the environment and improving the quality of life through the advocacy, promotion and application of environmentally justified technologies and sustainable development. Today, Green Osijek is one of the most active associations for the protection of nature and the environment in Eastern Croatia. The Association has 60 members, out of which fifteen volunteers and five permanent employees. Since December 2017, the Association, along with the Danube-Drava National Park and the Municipality of Bilje, has implemented a project called "Green Baranja - Boating the Tourist Offer through Innovative Products in Natural and Landscape Heritage". Duration of implementation of the project is from 01.12.2017. until 30.07.2019. The total budget of the project is 1.384.799,68 EUR and co-financed with 85% through Interreg V-A Hungary-Croatia 2014- 2020 Cooperation Program. The project objective is to stimulate environmentally and economically sustainable development in harmony with the preservation of nature in the cross-border region of Croatia and Hungary Baranja. The outcome of the project will be developing eco-tourism products and programs, organizing festivals and promoting the area as a desirable tourist destination. 16 land art installations will be set up along the cycle path of "Panonski put mira" in the Municipality of Bilje and Kopački rit. Also it is planned to build 2 houses on the trees in the House of Nature in Zlatna Greda, to create mobile applications for tourists, to set up 7 tourist information boards, to obtain electric vehicles for the transport of tourists, to set up a renewable energy source at Golden Glacier, to establish open Wi-Fi in all settlements of the Bilje and Kopački Rit Municipalities, to organize a water-travel guide (canoe, kayak), to acquire equipment for active and ecotourism, to organize 4 international ethno festivals to establish a new Baranja brand as an eco-tourism destination, etc.

According to the project leader, Dinko Pešić, the project will contribute to establishing a stronger tourist identity, increasing the attractiveness of the region, especially in the segment of active, cultural and eco tourism, contributing to employment, greater number of tourist arrivals and overnight stays and improving the overall socio-economic situation in the region.

[3] In early 2008, an initiative committee for the establishment of an adventurous sports club was formed. The Baraber Extreme Sports Club, Association for Sports in Nature, Tourism and Ecology. Almost all of its activities are conducted in nature and club members are aware of the need to preserve and improve the natural environment, the club also deals with ecology. In addition to celebrating commemorative dates eco-friendly Baraberi regularly participate in natural-action cleaning actions. The activities of the club consist of competitive activities - for the most active members, revival activities - marking important dates and events, and recreational activities - for broad membership and all citizenship. http://baraber-extreme-team.com/

3. Research results

3.1. Survey research

The survey was conducted during February 2018. The total number of respondents participated in the survey is 140 , out of which 134 live in the Republic of Croatia. In the study was participated a 93 womens and 47 mens. The highest number of respondents, as a completed level of education, are University graduate studies, 43% of them, 11% of respondents have a Master's degree, 8% have finished a Postgraduate university study and with a doctoral degree is 5% of respondents or 7 respondents. Most of the respondents are employed, 82% of them, of whom 25% are self-employed. The retired is 7% of respondents, and 5% are regular students. Most respondents have a medium level of income, 42% of respondents or 57 respondesnts and 40% respondents or 55 respondetns with medium high incomes.

Based on the previous results of the survey we can conclude that the questionnaire was mostly filled by the persons who are living in the Republic of Croatia, have high qualifications, are employed by someone else or self-employed and have a medium and medium high income level.

Due to time and financial costs, the survey was conducted on a smaller sample and geographically limited area by internal channels. To confirm these surveys and some other further research, more financial resources are needed. On a larger sample and on the wider geographic area of the test, greater sample replication would be achieved and more accurate results would be obtained. In this paper we got some results that open up a series of new questions on which there is potential for new research.
In any case, the potential for eco-tourism development in Eastern Croatia exists, and the first step in its development is to expand the brand image of the region.

The highest number of respondents most often travels with their partner or with their family, a total of 73%, or 103 respondents.
Destinations in Eastern Croatia have so far visited 60% of respondents, mostly for the purpose of short breaks (two overnight stays of 38% of respondents) and the recognizability of Eastern Croatia as a tourist destination is best seen by respondents in eco and gastro tourism, as can be seen in Table 2.

***Table 2** Recognizability of Eastern Croatia as a tourist destination*

	Responses	Average
	N	
Gastro tourism (food, wine)	142	4.4
Congress tourism (symposia, conferences)	137	3.4
Cultural tourism (museums, cultural art events, historical ambience, etc.)	142	4.1
Eco tourism (ethnic villages, nature parks)	142	4.5
Religious tourism (pilgrimage to Aljmaš or Đakovo, etc.)	142	3.2
Adventure tourism (cycling, trekking, water sports, etc.)	140	3.9
Total Responses	142	

Source: authors

As the main reason for the holiday in 2017, respondents mentioned nature, ie mountains, lakes and natural beauties (73.2%). In selecting travel destinations, apart from their natural characteristics and authentic experience, it is most important for the respondents that the local destination has introduced ecological practices, namely that there are measures to protect cultural and natural resources, reduce the impact of tourism on the environment and involve the local population in tourist services and benefits from tourism (78%). At the same time, it is equally important that the hotel or accommodation in which they are staying has introduced ecological tourism practices such as energy or water saving measures, recycling and the like (67.6%), as can be seen in Table 3.

Table 3 *Are the listed aspects important when you are choosing a destination?*

	Yes		No	
	N	Row %	N	Row %
The local destination (city, village, region) has introduced sustainable / ecological practices (eg measures to protect natural and cultural resources, reduce the impact of tourism on the environment or involve the local population in tourist services and benefits from tourism)	110	78	31	22
The hotel / accommodation has introduced ecological tourism practices (energy / water saving measures, recycling, food purchased by fair trade, etc.)	92	67,6	44	32,4
It was possible to approach to the destination with vehicle with low impact on environment	68	49,6	69	50,4
The destination or used service (accommodation, attractions) has a certificate on introduced sustainable / ecological practices	68	50,4	67	49,6
Total Responses				

Source: authors

To the question, are you familiar with the eco-tourism term 84% of respondents stated that their term was known, and in their opinion the term eco tourism best describes the statement that this is a journey that brings awareness of the environment (62%).

Table 4 *In your opinion, which of the offered statements best describes the term eco tourism*

Value	%	N
A journey to a destination rich in natural landscapes	46.5%	66
A journey with minimal environmental impact	44.4%	63
A journey that brings awareness of the environment	62.0%	88
A journey that has the effect of increasing the revenue that self-governments use to conserve the environment (energy efficiency, recycling, etc.);	31.7%	45
A journey that affecting increase in local community revenues (households, service providers, etc.)	28.2%	40

Source: authors

In the offer of eco tourism, respondents are most expected originality in tradition, gastronomy and eco-farming, as well as ecologically produced foods. Of the activities of eco-tourism, respondents prefer visits to national or nature parks with the exploration of tradition and cultural and natural heritage. They also prefer active holidays through hiking and cyclotourism and the like. Visible in Table 5.

Table 5 *From the activities and offers of ecotourism, you prefer:*

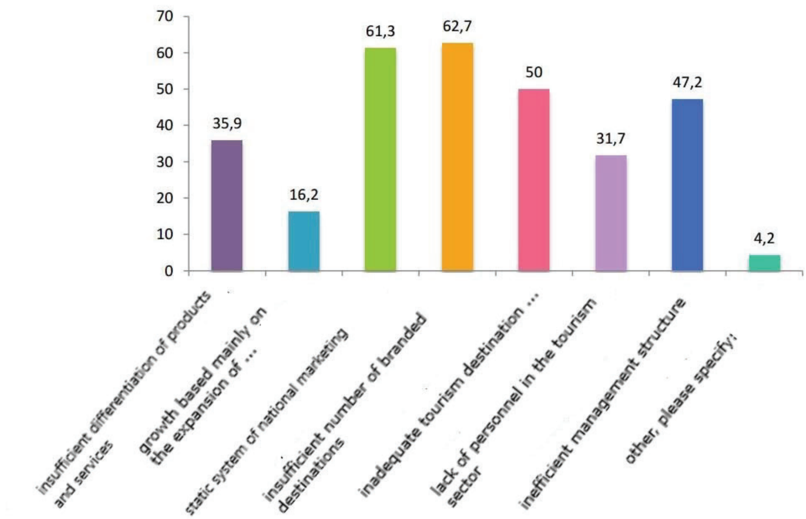
	Responses	Average
	N	
Active holiday (walking, trekking, water activities, cycling)	141	4.1
Participating in activities on family farms	138	3.5
Socializing with the locals, exploring tradition, cultural and natural heritage	141	4.1
Visiting national parks and nature parks	139	4.5
Total Responses	141	

From the activities and offers of ecotourism, you prefer (1 – strongly not prefer, 5 – strongly prefer)

Source: authors

As the most significant lack of ecotourism offers in Eastern Croatia, the respondents see a low number of branded destinations (62.7%) and the static system of national marketing (61.3%). Shown in Graph 1. Still, 96% are planning to return to Eastern Croatia for holiday.

***Graph 1** In your opinion, what is currently the most significant lack of offer in ecotourism in Eastern Croatia*



Value	%	N
Insufficient differentiation of products and services	35.9%	51
Growth based mainly on the expansion of family accommodiation on hoseholds	16.2%	23
Static system of national marketing	61.3%	87
Insufficient number of branded destinations	62.7%	89
Inadequate tourism destination infrastructure	50.0%	71
lack of personnel in the tourism sector	31.7%	45
Inefficient management structure	47.2%	67
Other, please specify:	4.2%	6

From the activities and offers of ecotourism, you prefer (1 – strongly not prefer, 5 – strongly prefer)

Source: authors

4. Conclusion

Based on the survey conducted, we can conclude that Eastern Croatia has great potential for development as a tourist eco destination. The survey has shown that the respondents, when choosing a holiday destination, mainly wish for everything Eastern Croatia already has to offer. Diverse range of natural features, nature parks, rich selection of food and wine are prerequisites for an authentic experience most appreciated and sought after by respondents and visitors. However, insufficient brand awareness is the main disadvantage of ecotourism offer in Eastern Croatia. Precisely because of insufficient information and the statistical system of marketing, the brand is unrecognizable. In order to tackle this issue, it is important to have a synergy between local communities, tourist agencies and the local population. That should start with their concerted efforts to support the creation of the brand of Eastern Croatia as a desirable tourist eco destination. Firstly, it is important to distinguish between brand identity and brand image. Brand identity is the way we present ourselves to others, and brand image is the way others perceive us. Currently, the brand image is quite unfavourable because Eastern Croatia is considered the poorest region in which the consequences of the Homeland War are still felt today. Branding of the region should create positive associations in consumers' minds, as well as values of recognisability and distinctiveness from other regions through an authentic experience and service. It is necessary to establish a relationship between the consumer and the brand by generating value through functional, emotional or personal benefits. In order to make Eastern Croatia successful as a desirable tourist eco destination, it is necessary to explore what its competitive advantages are, what makes it stand out, what makes Eastern Croatia better than the competition, what additional value it brings, and what is the current strength of its brand. Answering these questions should create a pleasant, strong and unique image in front of the consumer, thus creating a connection between the brand and the consumers themselves. Such a brand situation ensures excellence, facilitates buying decisions, attracts new consumers, and creates a situation in which minimum marketing efforts should be made in retaining already existing consumers.

The conclusions drawn based on the results of this survey are the basis, i.e. the starting point for further research on this topic. In order to get a more complete picture and a clearer answer to the emerging issues, more detailed research is needed to offer solutions for creating a positive brand awareness of Eastern Croatia as a tourist destination. It is a special challenge, but also a necessity for the development of tourism in Eastern Croatia.

REFERENCES

Čavlek, N., Keasr, O., Prebežac, D., Baroluci, M., (2011): ***Turizam – ekonomske osnove i organizacijski sustav***, Školska knjiga, Zagreb

Državić, I., (2003): ***Hrvatski gospodarski razvoj***, Ekonomski fakultet Sveučilišta u Zagrebu, Zagreb

Geić, S., (2011): ***Menadžment selektivnih oblika turizma***, Sveučilište u Splitu, Split

Hansrudei, M. (2004): ***Turizam i ekologija***, Masmedia, Zagreb

Vukonić, B., (2010): ***Turizam,*** Plejada, Zagreb

Wood Epler M. (2002.) **"*Ecotourism: Principles, practices and policies for sustainability*",** UNEP, Pariz

Miljak t., Bačić L., Kitić M., (2012.) "Ekoturizam kao poticaj razvoja poduzetništva u turizmu na primjeru Republike Hrvatske", Učenje za poduzetništvo, Vol.2 No.2 Prosinac 2012.

https://www.dzs.hr (accessed on 15th January 2018)

https://www.hnb.hr (accessed on 15th January 2018)

http://www.mint.hr (accessed on 15th January 2018)

https://hrturizam.hr (accessed on 15th January 2018)

https://www.evisitor.hr (accessed on 15th January 2018)

https://intermediaprojekt.hr/2017/05/28/kako-zapoceti-djelatnost-turizma-na-opg/ (accessed on 15th January 2018)

Jasmina Dlačić, PhD, Assistant Professor
University of Rijeka, Faculty of Economics
Ivana Filipovića 4, HR – 51000 Rijeka, Croatia
Phone: +385 51 355 169 Fax: +385 51 212 268
E-mail address: jasmina.dlacic@efri.hr

Kristina Črnjar, PhD, Associate Professor
University of Rijeka, Faculty of Tourism and Hospitality Management
Primorska 42, HR – 51410 Opatija, Croatia
Phone: +385 51 294 715 Fax: +385 51 291 965
E-mail address: kcrnjar@fthm.hr

Marin Lazarić, MSc (Econ), Director of Development, Assets Management and Technical Services, and PhD student
Imperial d.d. // University of Rijeka, Faculty of Economics
Jurja Barakovića 2, HR – 51280 Rab, Croatia
Phone: +385 99 667 7410
E-mail address: marin.lazaric@imperial.hr

LINKING INTERNAL MARKETING AND EMPLOYEE ENGAGEMENT IN THE HOSPITALITY INDUSTRY

POVEZIVANJE INTERNOG MARKETINGA I ANGAŽIRANOSTI ZAPOSLENIKA U HOTELJERSTVU

ABSTRACT

The prosperity of the hospitality industry, as a part of the service industry, strongly depends on the customers' satisfaction. Employees deal directly with customers on an everyday basis. Therefore, the human capital of an organisation has a key role in delivering high-quality customer service. In order to improve the quality of services, internal marketing was introduced as a marketing strategy where employees are approached as internal customers. It represents a concept for managing the human capital of a company by focusing on the processes of recruitment, retention, motivation, training and internal communication, thus affecting the work dedication and devotion of employees. High employee engagement - the level of commitment of employees in fulfilling their job requirements and delivering quality customer service – will pave the way for company success.

The purpose of this paper is to explore the relationship between internal marketing and employee engagement in the hospitality industry. The study aims to analyse and determine the influence internal marketing practices have on the level of employee engagement. Based on an extensive literature review, a conceptual research model was created to explore the relationship between motivation and retention, as a multidimensional internal marketing concept, and employee engagement, observed as cognitive engagement. The data were collected using questionnaires among hotel employees in the Croatian hotel industry.

The paper offers managerial implications for hotel managers on developing employee engagement and, consequently, improving service quality. It will expand the current knowledge on internal marketing practices and its influence on employee engagement in the hospitality industry. To enhance future employee engagement it is recommended that hotel management should place more emphasis on internal marketing practices and programs thereby enhancing the quality of the *employees' work. This will consequently improve service quality. Also, limitations and ideas for further research are offered.*

Key words: *Internal marketing, Employee Engagement, Hospitality Industry, Human capital, Management of human capital.*

SAŽETAK

Prosperitet hotelijerstva, koji čini dio servisne industrije, pod snažnim je utjecajem zadovoljstva kupaca. Zaposlenici su u svakodnevnim aktivnostima u izravnom doticaju sa potrošačima. Ljudski kapital organizacije imati će ključnu ulogu u pružanju visokokvalitetne usluge potrošačima. Kako bi se poboljšala kvaliteta usluga, interni marketing je predstavljen kao marketinška strategija u kojoj se zaposlenici promatraju kao interni klijenti. To predstavlja koncept za upravljanje ljudskim kapitalom poslovnog subjekta s naglaskom na proces zapošljavanja, zadržavanja, motivacije, obuku i interne komunikacije. Navedeni procesi imati će snažan utjecaj na predanost i odanost zaposlenika. Visoki angažman zaposlenika, predanost zaposlenika da u potpunosti ispunjava zahtjeve radnog mjesta i pruža kvalitetnu uslugu kupcima, predstavlja temelj uspješnosti poslovnog subjekta.

Svrha ovog članka je istražiti odnos između internog marketinga i angažmana zaposlenika u hotelijerstvu. Studija ima za cilj analizirati i utvrditi utjecaj unutarnjih marketinških praksi na razinu angažmana zaposlenika. Osnovu za konceptualni model istraživanja predstavlja opsežni pregled literature kako bi se istražilo povezanost između interne komunikacije, osposobljavanja, zapošljavanja i sl, kao multidimenzionalnog koncepta internoga marketinga i angažmana zaposlenika (fizičke, emocionalne i kognitivne). Podaci su prikupljeni anketnim upitnikom, a ciljana skupina su zaposlenici u hotelskoj industriji Hrvatske.
Članak nudi implikacije za menadžere hotela kako bi razvili angažman zaposlenika te posljedično unaprijedili kvalitetu usluge. Članak će doprinijeti stvaranju novoga znanja o praksama u sklopu internoga marketinga i njegovom utjecaju na angažman zaposlenika u hotelskoj industriji. Kako bi se povećao angažman zaposlenika predlaže se menadžmentu hotelskih poslovnih subjekata da veći naglasak stave na interne marketinške prakse i programe usmjerene na zaposlenike kako bi se povećala kvaliteta njihove usluge. Navedeno posljedično povećava ukupnu kvalitetu usluge hotelskog subjekta percipiranu od strane potrošača. Također, istaknuta su ograničenja i ponuđene ideje za buduća istraživanja.

Ključne riječi: *interni marketing, angažiranost zaposlenika, hotelijerstvo, ljudski kapital, menadžment ljudskoga kapitala.*

1. Introduction

Customer satisfaction has become a vital concern for companies in their efforts to improve product and service quality, and maintain customer loyalty within a highly competitive marketplace (Al Khattab et al., 2011). Employees in everyday contact with consumers will be responsible for delivering high-quality customer service in order to positively influence customer satisfaction. In the hospitality industry, more than in any other, customer attitudes and satisfaction will be based not only on the products and services they consume but also on the whole experience. This experience will include all direct and indirect contact employees have with customers. The performance of a company's workforce will, therefore, intensely influence overall customer satisfaction.

To improve the quality of services, internal marketing was introduced as a marketing strategy where employees are approached as internal customers. It represents a concept for managing the human capital of a company by focusing on the processes of recruitment, retention, motivation, training and internal communication, thus affecting the work dedication and devotion of employees. High employee engagement – the level of commitment of employees in fulfilling their job requirements and delivering quality customer service – will pave the way for company success. Human capital will play a key role in successfully achieving business productivity and all other success-oriented goals in service organisations. The intensely competitive market is forcing hoteliers to continuously innovate and improve themselves in order to attract new customers and keep their loyal ones. The attention to service quality from the customer's perspective is considered as one of the most important factors deciding the success of tourism and hotel businesses (Hue Minth et al., 2015).

As awareness of the importance of human capital rises, so does the need to find new concepts and ways of motivating employees to ensure their high level of engagement. Although internal marketing is not a new a concept, in Croatian hospitality it has not been widely accepted or strongly linked to employee engagement. To fill this gap, our study was conducted to explore the relationship between internal marketing and employee engagement in the hospitality industry. The study aims to analyse and determine the influence internal marketing practices have on the level of employee engagement. The paper offers managerial implications for hotel managers on developing employee engagement and, consequently, improving service quality.

2. Literature review and hypotheses development

2.1. Internal marketing

The application of branding principles to human resource management will result in employer branding. An organisation uses employer branding to promote its image as the right place to work and to develop awareness among potential and current employees and stakeholders (Sullivan, 2004). The quality and extent of hospitality services will be determined by the number of employees and the level of knowledge, competences and skills they possess. This will put a constant pressure on organisations. On the one hand, they will need to find a way to attract new highly-qualified employees and, on the other hand, a way to keep existing employees with key knowledge and competences in the company.

Internal marking is usually seen as a process for selling and promoting the company and its vision, mission, values and objectives to the employees. Kotler and Amstrong (1991) define internal marketing as the "task of successful hiring, training and motivating able employees to serve the customer well". It is a concept with the belief that satisfied customers come from satisfied employees (Kotler & Keller, 2009, 62) and an integrated internal management of all those activities that directly and indirectly support the satisfaction of the customers' requirements. Therefore implementing strategies like training and development, leadership, rewards, and communication within the context of internal marketing to satisfy internal customers (employees) is important for organisational service quality (Islam Rony & Mohd Suki, 2017, 135-136). Akroush et al. (2013) explore six dimensions of internal marketing: staff recruitment, staff training, internal communication, staff motivation, job security and staff retention. The impact of internal marketing extends beyond the employee-firm relationship in its ability to link employees' satisfaction to superior service quality (Sousa & Coalho, 2013). Internal marketing starts right from the beginning of the recruitment and selection of the right employees, to selection of a satisfying position and showing positively in doing work to thus, achieve customer satisfaction (Al-Hawary, 2013.).

The concept of internal marketing emerged during the 1970s, emphasizing the role that employees have when determining service quality (Barry et all., 1976). Barry (1981) defined internal marketing as viewing employees as internal costumers and jobs as internal products that satisfy the needs and wants of those customers while addressing the objectives of the firm. During the 1990s internal marketing shifted its focus to the link with human resource management. Hales (1994) stated that internal marketing is similar to human resource management, and the processes of human resource management such as attracting, developing, motivating and retaining employees are internal marketing activities (Berry, Parasuraman, 1991). Even though internal marketing and human resource management cover some of the same activities and processes, human resource management is much more comprehensive. Internal marketing can be seen as a human resource management tool used by an organisation to successfully develop and motivate highly-engaged employees to provide quality service to customers, resulting in high customer satisfaction.

Over the years, research linking internal marketing and the hospitality industry has confirmed the importance of internal marketing in managing employees in the hotel industry (Sokhatskaya, 2013, Lo et al., 2010.) and demonstrated that effective internal marketing practices result in employee satisfaction, costumer focus and delivery of high-quality services (Sokhatskaya, 2013, Tag-Eldeen et all., 2001), as a means of effective management of employees for enhanced productivity. Nevertheless, studies linking internal marketing practices and employee commitment and engagement, especially in small hotel sectors, are rather limited (Braimah, 2016).

Internal marketing strategy is emerging as a central theme of increasing importance in both academic and practitioner discourse as a platform upon which organisations can get their human resources to understand and commit to the values proposition of organisations and improve their performance. Committed workforces achieve better results in their tasks and therefore deliver better service which, in turn, affects client confidence positively and contributes to realizing client loyalty (Towers Watson and Willis, 2014).

2.2. Employee engagement

Employee engagement is the level of commitment of employees, on both emotional and intellectual grounds, fulfilling all the requirements of the work place, making sure the mission and vision of the company are met at all times (Shahzad, T., Naeem, H, 2013).

Employee engagement first appeared as a concept in management theory in the 1990s. Kahn (1990) states that personnel engagement represents the harnessing of organisational members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively and emotionally during role performances. Schmidt et al. (1993) defined it as an employee's involvement with, commitment to, and satisfaction with work. Employee engagement is a part of employee retention. Employee engagement has often been used as a synonym of the term "employee satisfaction". This definition integrates the classic construct of job satisfaction with organisational commitment (Smith et al., 1969) (Mayer & Allen, 1991). Job engagement includes three types of engagement - physical, emotional and cognitive (Rich et al., 2010). Defining employment engagement still remains problematic since the definitions and dimensions taken into consideration vary in the weight they give to the individual versus the organisation in creating engagement.

Some empirical evidence explains the relationship between employee engagement and internal marketing. Mitchell (2000) explains that an organisation must create some employee commitment because once the employees are emotionally connected to the organisation the value of their brand company is higher. To achieve positive internal marketing, managers should strive to facilitate a high level of employee engagement/commitment that will result in a positive perception of employees concerning work and organisation (Das, 2003). Internal marketing will acquire a role of core tool used to motivate and retain the employees and create strong employee engagement in them (Czaplewski et all., 2001).

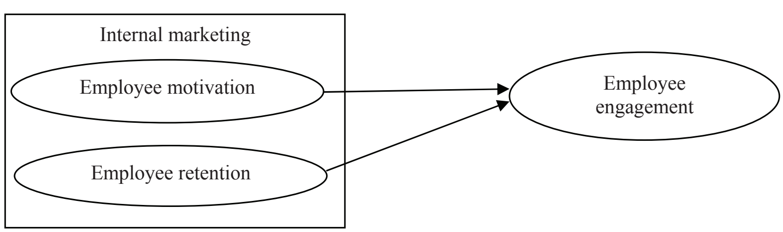
There are three measurable elements essential for sustainable engagement: employee willingness to expend discretionary effort on their job; having tools, resources and support; and having a work environment that actually supports physical, emotional and interpersonal well-being. Given the low levels of highly-engaged workers, it is essential for companies to understand the factors that drive sustainable engagement. Four in 10 employees are highly engaged so there is room for improvement. Fully 60% of employees lack the elements required to be highly engaged. Global top drives of sustainable engagement are leadership, goals and objectives, workload and work/life balance, image and empowerment. In today's global workplace, leadership is a driver of not only sustainable engagement overall but also of all the components of sustainable engagement. Base salary, opportunities for career development and job security are fundamental to attracting and retaining all employees. A company should focus on creating a stable job environment through the communication of business strategy goals and results as well as through effective leaders and managers and clear expectations (Towers Watson and Willis, 2014).

2.3. Hypotheses development

Motivation and staff retention are two key dimensions of internal marketing (Akoroush et al. (2012). All dimensions of internal marketing, as a part of human resource processes, are linked and influence one another. Securing a safe environment and implementation of different incentive plans should result in higher job satisfaction and a higher level of employee commitment in fulfilling all the requirements of the work place, ensuring that the mission and vision of the company are met at all times. The existing employees with key knowledge and competencies will be less likely to leave the organisation and the new, highly-qualified employees will be more likely to come and work for such employers. Positive internal marketing should result in satisfied employees and customers and in the high quality of goods and services the organisation is offering. Based on previous it is posited that:

H1. Internal marketing affects employee engagement.
H1a. Motivation affects employee engagement.
H1b. Retention affects employee engagement.

Figure 1 *Conceptual model*



Source: Author's

4. Methodology

4.1. Measures

In testing the posited relationships, scales from past research were used. To explore internal marketing practices, scales from Akroush, Abu-ElSamen, Samawi and Odetallah (2013) were used. In internal marketing practices, focus was put on employee motivation and employee retention. The scale was adapted to a hotel setting as respondents were employees at the hotel reception desk. Employee engagement was measured on a scale from Rich, Lepine and Crawford (2010) and adapted to a hotel setting. Engagement was approached as cognitive engagement from their scale. All scales used a 7-point Liker scale anchored in 1- completely disagree and 7 – completely agree.

4.2. Sample and data collection

Research was conducted on a sample of hotels in Croatia from March to June 2016. A convenience sample was used and, in total, 281 questionnaires were collected. The collection process with paper-and-pencil questionnaires included respondents from hotels predominantly located in the coastal part of Croatia. This was assumed to be an adequate scope of research, as the north Adriatic and the south Adriatic accounted for 36.65% and 44.01%, respectively, of the total number of hotels in Croatia in 2016 (Ministry of Tourism, 2016). Hence, 78.66% of all Croatian hotels are located in the coastal part of the country.

Research focused on front desk employees who are in direct contact with hotel guests and represent the first contact with guests. So, internal marketing practices and employee engagement affect how guests perceive not only the hotel but also the tourist destination. Therefore, having engaged front line employees at the hotel reception desk is crucial.

The final sample of 281 properly filled questionnaires was used for further analysis. Analysis was done using SPSS 21 for Windows.

5. Research results

5.1. Sample characteristics

Demographic characteristics of 281 respondents are presented in the following table (Table 1).

***Table 1** Respondents' demographic profile*

Characteristic	Frequency	Percentage
Gender		
Male	116	41.3%
Female	165	58.7%
Education		
High school	99	35.2%
Undergraduate university study	64	22.8%
Undergraduate professional study	52	18.5%
Graduate study	65	23.1%
Postgraduate study	1	0.4%
Type of employment		
Seasonal work	83	29.5%
Employed based on temporary work contract	97	34.5%
Employed based on permanent work contract	97	34.5%
Student employment	4	1.4%

Source: Research results

The sample consists of a slightly higher number of females (58.7%) who have finished high school (35.2%) and are employed based either on a temporary work contract (34.5%) or a permanent work contract (34.5%). The age of the respondents ranges from 20 to 60, with the average being 33. Most of the respondents are 27 years old (8.1%), followed by those aged 25 and 23 (both groups accounting for 7.1% of the total sample).

5.2. Research analysis

In order to test the research hypotheses, exploratory factor analysis was conducted to test if the scales used are suitable for further analysis. Exploratory factor analysis (EFA) was conducted using Principal component analysis in SPSS with oblimin rotation and Kaiser Normalisation. Hair et al. (2010) suggest this analysis when a sound theoretical background among researched constructs is present but when constructs are closely related and probably dependent, they suggest oblimin rotation. After purifying the scale and discarding items that had low communalities, that is, lower than 0.5 as Field (2009) suggested, two items were removed from further analysis. Analysis results relating to the Kaiser-Meyer-Olkin (KMO) adequacy of sampling and Bartlett's test of sphericity reported: KMO=0.913 and χ^2=3302.375 ($p<0.05$). So, according to the threshold values of Hair et al. (2010), this sample is adequate and analysis can be continued. In the analysis no factor loading lower that 0.3 is present, as Field (2009) has suggested. In our EFA, a three-factor solution has emerged, revealing the following factors: employee motivation, employee retention and employee engagement. These factors explain 69.831% of variance in research results. Results of exploratory analysis and reliability analysis for retained factors are presented in Table 2.

***Table 2** Factor analysis and reliability analysis*

Items	Factor		
	Employee motivation	Employee engagement	Employee retention
Our system of incentives is in accordance with business goals set on the hotel level.	0.818		
All employees know the reward system and how to earn a reward.	0.771		
All employees know why they have been granted awards and rewards.	0.871		
System of incentives at our hotel motivates employees to give their best at their job.	0.730		
System of incentives has set clear criterions for evaluating how employees are performing.	0.785		
Hotel management uses a system of financial incentives to motivate employees to do their best at job.	0.634		
Hotel management provides possibilities for employees to advance in the hotel hierarchy.			0.546
Hotel management includes employees in the decision-making process when future hotel development plans are being discussed.			0.821
Hotel management empowers employees at their jobs.			0.715
At meetings, hotel management discusses with employees how to help them perform better at their jobs.			0.678
Hotel management recognises good employees.			0.666
Hotel management uses a payroll system that is in accordance with an employee's amount of work at the job.			0.682
At work, my mind is focused on my job.		0.772	
At work, my job is my priority.		0.809	
At work, I focus a great deal of attention on daily tasks.		0.851	
At work, I concentrate on my job.		0.772	
At work, I devote a lot of attention to my job.		0.868	
Cronbach alpha	0.918	0.909	0.885
% of explained variance	45.250	18.462	6.120
Eigenvalue	7.692	3.138	1.040
Scale mean	28.91	28.48	28.27

Note: Rotation converged in 9 iterations.

Source: Research results

From the above table (Table 2) it can be noted that all scales have reliability above the suggested value of 0.7 (Nunnally, 1967); that is, Cronbach alphas are in the range of 0.885 to 0.918. This implies that scales are reliable and can be used for further analysis. In subsequent analysis, scales were composed as an average index of items that constitute the factor.

To test the stated hypotheses, multivariate regression analysis was applied with employee engagement as the dependent variable. The method used in the selection of variables in regression analysis is the Enter method. Results are presented in Table 3.

***Table 3** Results of multiple regression analysis*

	B	Beta	T-value
Constant	4.608		22.258
Employee motivation	0.023		0.405
Employee retention	0.207 (0.063)	0.286	3.295**
R^2	0.098		
R^2 (adj)	0.091		
F-value	15.089**		

Note: N=281; standard error is in parenthesis; ** p < 0,05

Source: Research results

Table 3 shows that both employee motivation and employee retention explain variance in employee engagement in a small but statistically significant extent (R^2 (adj)=9.1%). From conducted analysis it can be concluded that only employee retention (β=0.286) influences employee engagement. VIF values (2.315) and Tolerance (0.432) are at acceptable levels, indicating that collinearity is not a problem since VIF is not substantially larger than 1. The Durbin-Watson test is 1.671, indicating that residuals are not correlated.

6. Discussion and Conclusion

Based on these results we can conclude that internal marketing practices observed through employee motivation and employee retention do not contribute equally to employee engagement in the hospitality industry. When observing front line employees at the reception desk, only employee retention (β=0.286) influences employee engagement, observed as the cognitive engagement of employees with their job. Hence, the stated hypothesis is only partially confirmed, but still it can be stated that internal marketing practices influence employee engagement. This is in accordance with past research discussed in the second chapter.

Research results are indicative in their nature but still offer some interesting insights for managers in the hospitality industry. Firstly, internal marketing has to be approached from a multidimensional perspective. When observing internal marketing *per se* it could be concluded that its practices do influence employee engagement, but with detailed analysis it can be noted that only employee retention contributes to employee engagement. So, employee motivation is not an influencing factor. Secondly, advancement opportunities, employee empowerment, inclusion of employees in the decision-making process and the recognition of good employees, both through system of rewards and financial contribution, will help employees to be more engaged at their job. This will consequently contribute to satisfaction as Kadic-Maglajlic, Boso and Micevski (2018) noted that internal marketing practices do enhance customer satisfaction in the maturing markets. And, as customers are in the centre of every market oriented company like hotels, developing internal marketing practices will contribute to their satisfaction also in hospitality industry. Thirdly, employee engagement of front line employees at the reception desk in hotels has to be observed independently of their motivation for their job, as employee motivation does not contribute to employee engagement.

This paper, as many others, has limitations. The sample consists only of front line employees working at the reception desk. So, including a more diversified sample would give additional insight into internal marketing practices and how they are related to employee engagement. Also, including more internal marketing practices in research would certainly provide an additional perspective of how managers in the hospitality industry can manage employee engagement. Providing different perspectives in employee engagement, by including emotional and physical engagement in research framework, would also provide additional insight. Hence, it is suggested that future research should include more internal marketing practices to enable a more in-depth analysis of how to approach hospitality industry employees as customers. It is also suggested to include diverse perspectives on employee engagement in order to provide additional insight into how to engage employees.

Acknowledgment
This paper has been financially supported by the University of Rijeka for project ZP UNIRI 9/17.

REFERENCES

Akroush, M.N., Abu-ElSamen, A.A., Samawi, G.A., Odetallah, A.L. (2013): ***Internal marketing and service quality in restaurants*** in: Marketing Intelligence & Planning, Vol. 31, No.4, pp.304-336.

Al Khattab, S. A., Aldehayyat, J. S. (2011): ***Perceptions of Service Quality in Jordanian Hotels***, International Journal of Business and Management, Vol. 6, No. 7, pp. 226-233.

Al-Hawary, S.I., et all. (2013): ***The impact of internal marketing on employee job satisfaction of commercial banks in Jordan***. Interdisciplinary Journal of Contemporary Research in Business, Vol. 4, No. 9, pp. 811-826.

Berry, L. B. (1981): ***The employees are customers***, Journal-of-Retail-Banking, Vol. 3, No. 1, pp. 33-4

Braimah, M. (2016): ***Internal marketing and employee commitment in the hospitality industry***, African Journal of Hospitality, Tourism and Leisure, Vol. 5, no. 2

Czaplewski, Andrew J, Ferguson, Jeffery M, Milliman, John F. (2001): ***Southwest Airlines: How internal marketing pilots success***, Marketing Management, Vol. 10, No. 3, pp. 14-17.

Das, S. (2003): ***Vacant or engaged?,*** Employee Benefits, pp. 24-28.

Field, A. (2009): ***Discovering statistics using SPSS***, 3rd edition. London: Sage publications.

Hair, Joseph F. Jr., William C. Black, Barry J. Babin, Rolph E. Anderson and Ronald L. Tatham (2006): ***Multivariate Data Analysis***, 6th edition. Upper Saddle River, N.J.: Pearson Prentice Hall.

Hales, C. (1994): ***Internal Marketing' As an Approach to Human Resource Management***: **A New Perspective Or A Metaphor Too Far?**, Human Resource Management Journal, Vol. 5, No. 1, pp. 50-71

Islam Rony, N., Mohd Suki, N. (2017): ***Modelling the Relationship between Internal marketing Factors and Employee Job Satisfaction in Oil and Gas Industry***, Asian Social Science, Vol. 13, No. 3, Canadian Centre of Science and Education, pp. 135-144.

Kadic-Maglajlic, S., Boso, N., Micevski, M. (2018). **How internal marketing drive customer satisfaction in matured and maturing European markets?**, Journal of Business Research. Vol.86, pp. 291-299.

Kotler, P., Armstrong, G. (1991): ***Principles of Marketing***, Prentice Hall, NY

Kotler, P., Keller, K.L. (2008): ***Upravljanje marketingom***, Mate, Zagreb

Leonard L. B., Parasuraman, A. (1991): ***Marketing Services: Competing Through Quality,*** Free Press, NY

Lo, A. s., Stelcup, L. D., Lee, A. (2010): ***Customer relationship management in hotels in Hong Kong***, International Journal of Contemporary Hospitality Management, Vol. 22, Nu. 2, pp. 139-159

Ministry of tourism (2016): Archives on categorization, http://www.mint.hr/pristup-informacijama/kategorizacija-11512/arhiva-11516/11516, (accessed March 15, 2018)

Mitchel, C. (2002): ***Selling the brand inside,*** Harvard Business Review, Vol. 80, No. 1, pp. 99-105

Nguyen Hue Minh, Nguyen Thu Ha, Phan Chi Anh, Yoshiki Matsui (2015): ***Service Quality and Customer Satisfaction: A Case Study of Hotel Industry in Vietnam***, *Asian Social Science*, *11*(10), p.73-85.

Rich, B.L., Lepine, J.A., Crawford, E.R.(2010): ***Job engagement: Antecedents and effects on job performance***, Academy of management journal, Vol. 53, No. 3, pp 617-635.

Shahzad, T, Naeem, H. (2013): ***Role of Internal Marketing in Employee Engagement Leading to Job Satisfaction of Employees in Private Banks of Pakistan,*** IOSR Journal of Business and Management (IOSR-JBM), Vol. 8, No. 2, pp. 62-68

Sokhatskaya, N. (2013): ***Peculiarities of internal marketing in the hospitality industry in Kazakhstan: The role of tourism in the development of hotel business,*** Journal of Tourism and Services, Vol. 4, pp. 116-124.

Sousa, C. M., Coelho, F. (2013): ***Exploring the relationship between individual values and the costomer orientation of front-desk employees***, Journal of Marketing management, Vol. 29, No. 15-16, pp. 1653-1679.

Sullivan, J. (2004): ***Eight elements of a successful employment brand***, https://www.ere.net/the-8-elements-of-a-successful-employment-brand/ (accessed 01 April 2018).

Tag-Eldeen, El-Said, O.A. (2011): ***Implementation of internal marketing on a sample of Egyptian five-star hotels***, Anatolia: An International Jornal of Tourism and Hospitality Research, Vol. 22, No. 2, pp. 153-167.

Towers Watson and Willis (2014): ***The 2014 Global Workforce Study - Driving Engagement Through a Consumer-Like Experience,*** https://www.towerswatson.com/en-BM/Insights/IC-Types/Survey-Research-Results/2014/08/the-2014-global-workforce-study (accessed 27 March 2018)

Assistant Professor Tomislav Galović, PhD
University of Rijeka Faculty of Economics
Ivana Filipovića 4 51000 Rijeka
Phone: 051/355155
E-mail address: tomislav.galovic@efri.hr

Florijan Ćelić, PhD student, MEcon
University of Rijeka Faculty of Economics
Ivana Filipovića 4 51000 Rijeka
Phone: 095/5506055
E-mail address: ideo@ideoplan.hr

Robert Bačac, MEcon
Giardini 2, Pula
Phone: 098/9166521
E-mail address: robert.bacac@pu.t-com.hr

THE EXPORT COMPETITIVENESS OF DEVELOPING CROATIAN TOURISM DESTINATIONS

IZVOZNA KONKURENTNOST HRVATSKIH TURISTIČKIH DESTINACIJA U RAZVOJU

ABSTRACT

The aim of this paper is to analyze economic aspects and export competitiveness of selected Croatian developing tourist destinations with less than 3000 inhabitants. The methodology includes results of economic indicators of three selected Croatian tourist destinations on the Adriatic coast (Istarska, Zadarska and Dubrovačko-neretvanska County). The observed period is from year 2013 to year 2016. The results embody benchmarking analysis and comparison with strong emphasis on economic performance and export competitiveness on selected destinations. The conclusion refers to confirming current competitive position and potential of investigated developing Croatian destinations. The recommendations and proposals are given based on the results of research.

Key words: *Developing tourist destinations, economic performance, export competitiveness, tourism, analysis.*

SAŽETAK

Glavni cilj ovog rada je analiza ekonomskih aspekata i izvozne konkurentnosti izabranih hrvatskih turističkih destinacija u razvoju s manje od 3000 stanovnika. Metodologija uključuje rezultate ekonomskih pokazatelja tri hrvatske turističke destinacije na Jadranskoj oblai (Istarska, Zadarska i Dubrovačko-neretvanska županija). Razdoblje promatranja je od 2013. do 2016. godine. Rezultati obuhvaćaju benchmarking analizu i usporedbu s snažnim naglaskom na ekonomske rezultate i izvoznu konkurentnost odabranih destinacija. Zaključak se odnosi na konkurentsku poziciju i potencijal hrvatskih turističkih destinacija u razvoju. Zaključci i preporuke donose se temeljem rezultata istraživanja.

Ključne riječi: *Turističke destinacije u razvoju, ekonomski rezultati, izvozna konkurentnost, turizam, analiza.*

1. Introduction

Globalization does not marginalize tourism based on the growth of domestic and international tourist spending, more intensified and easier mobility of tourists. Globalization maximizes global competition on international tourist destinations and global tourist market (Conrady i Buck, 2010). Tourist sector has confronted with negative effects of global financial crisis from 2009 and reacted with measures to neutralize negative consequences. After certain period, short-term demand for vacation started to recover rapidly, especially in following period. Croatian tourist sector started to recover as well, especially in period from 2011 to 2015 which is characterized by rapid increase of revenue in accommodation facilities (Galović et. al. (2016)

Universally speaking, key drivers of the growth of global economy and global tourist sector include (Dwyer et al., 2009):

1) Economic trends (globalization and market changes, macroeconomic policies, trade and investment growth, economy based on knowledge and creativity, human resources development, higher level of productivity and competitiveness, diffusion of information technology and dynamic private sectors);
2) Political trends: international power and security, regional and ethnic conflicts;
3) Environmental drivers: climate change, natural resource depletion and loss of biodiversity;
4) Technology: information and communication technologies and transportation;
5) Demographic drivers: population and aging, urbanization, changing social structures, health, changing work patterns, changing gender structure and education;
6) Social drivers: money rich-time poor individualism, individualism, seeking a variety of experiences, self-improvement, seeking value for money, increased social and environmental awareness, safety conscious tourists.

In modern times, tourist and money are oriented towards supply on tourist market (Pirjevec, 1998). The importance of technology is evolving faster than ever. The implementation of technology revolutionized business, competitiveness and tourist preferences. Tourist get more information, online experiences that became value for future decision of a tourist.

The growth of technological and scientific achievements along with open communication channels and easier mobility of tourists is very hard to prevent or slow down (Sobouti, 2008). There are two key aspects that define how to do technology-based business in global tourist sector. First aspect includes the importance of online marketing for tourist destinations, business and services. Digital marketing, marketing search engine, mobile and location marketing represent mechanisms for finding potential tourist. Second aspect embodies enterprise structure based on the more sophisticated preferences of tourists. This type of organization needs to offer personalized products, services along with possibility of gathering information of individual's needs.

One of the mail challenges for global tourist sector is the existence of difference between technological and tourist industry growth. To achieve export competitiveness, tourist facilities must use advanced technological products. Unfortunately, tour operators and working force in general don't have enough knowledge, tools or/and strategies which could be used with technologies. Investments in tangible goods are not biggest challenges anymore but investments in hardware and connectiveness (UNWTO, 2011).

The key goal of this research is to analyze economical aspects and export competitiveness of 3 tourist destinations (Kršan, Nin and Ston) with high potential of development. The research is based on the hypothesis that all three developing tourist destinations Kršan, Nin, Ston have potential in tourism activities. In the main hypothesis, it can be assumed that developing tourist destinations Kršan, Nin and Ston generally reach higher level of export competitiveness. This hypothesis will be proved based on the implementation of main ratios which show effectiveness, employment and productivity in tourist activities of selected developing destinations.

The research consists of four interrelated parts. After the introduction, the second part of the research represents methodological framework of the research. The third part shows the results of the economic performance of selected developing tourist destinations. The fourth part of the research sets out concluding observations.

2. Methodology

The methodology is based on the implementation of economic indicators and external benchmarking. The group of economic indicators include operating revenue per employee, profit per employee, average number of employees, average asset value and employee costs vs. sales ratio. External benchmarking method provides comparison with competition.

All the equations and results related to economic indicators represent tourist sectors (NACE Rev. 2, Primary codes 55 - Accommodation, 56 - Food and beverage service activities) of Kršan, Nin and Ston. The observed period is from year 2013 to year 2016. The results are derived from secondary research using Amadeus database (2017). All these indicators are expressed in thousands of Euros.

Operating revenue per employee measures the average revenue generated by each employee. It can be calculated as ORpe= OR/E. ORpe represents operating revenue per employee while OR means operating revenue and E indicates number of employees.

Revenue per employee is a measure of how efficiently a company is utilizing its employees. In general, relatively high revenue per employee is a positive sign that suggests the company is finding ways to squeeze more sales (revenue) out of each of its workers (Investing answers, 2018).

Profit per employee is an accounting ratio which expresses a firm's profit as a proportion of its size, measured in terms of numbers of employees. The equation of profit per employee is as it follows: Ppe=P/E. Ppe indicates profit per employee, P represents profit and E is number of employees.

Profit per employee therefore focuses companies on intangible-intensive value propositions and, in turn, on talented people—those who, with some investment, can produce valuable intangibles (Mckinsey, 2018).

Average number of employees (ANe) is calculated as total number of employees (Ne) per number of available enterprises (Nc) located in Kršan, Nin, Ston. The equation is as it follows: ANe=Ne/Nc. Average assest value indicates (AAv) total asset (Ta) divided by number of available enterprises (Nc) of Kršan, Nin and Ston. It can be summarized within equation AAv=Ta/Nc.
Employee costs vs. sales ratio measures the operating expenses (in the case employee costs) of a business shown on the profit and loss statement, with the gross sales of the business that are also shown on the profit and loss statement. This ratio is a quick indicator of rising or decreasing costs or rising or declining sales. (Smallbusiness, 2018).

Employee costs vs. sales ratio (ESC) is calculated as ratio between employee costs EC and operating revenue (OR). The equation is as it follows ESC=EC/OR. As an efficiency measurement, the lower the employee cost-to-revenue ratio, the higher the operating efficiency.

In case of external benchmarking method, developing tourist destinations Kršan, Nin and Ston are selected while using parameters like number of inhabitants, closeness to main tourist destinations (road infrastructure in km), cultural tourism as destination’s advantage, geographical position (sea coast) and geo traffic position. All those parameters can be observed within Table 1.

***Table 1** Demographical, geographical and geotraffic aspects of Kršan, Nin and Ston as developing tourist destination*

City /Municipality	County	Number of inhabitants (2011)	Closeness to main tourist destinations (road infrastructure in km)	Cultural tourism	Geographical position- closeness to sea coast	Geo traffic position
Kršan	Istarska	2951	Rovinj – 50 km	Yes	Yes	Extremely favorable
Nin	Zadarska	2744	Zadar – 20 km	Yes	Yes	Extremely favorable
Ston	Dubrovačko neretvanska	2407	Dubrovnik – 55 km	Yes	Yes	Favorable

Source: author's calculations from www.dzs.hr (12.9.2017)

According to Croatian Ministry of regional development and EU funds (2017), Kršan and Nin belong to Group IV of local development index (Ston – Group II). Anyways, there are justified reasons for conducting external benchmarking. All destinations have almost the same demographic data and destinations are located on favorable geo traffic position next to famous Croatian tourist destinations.

3. Results

Analytical section will identify, make economical, export competitiveness and benchmarking comparison between Kršan, Nin and Ston as developing tourist destinations. The results will provide basis for making future business decisions, business processes and managing tourist destinations. Following Table 2 will compare average income per capita, average unemployment rate and share of educated population from 16 to 65 years old.

***Table 2** Benchmarking and economic comparison of developing tourist destinations (Kršan, Nin, Ston)*

City-Municipality/Category	Kršan	Nin	Ston
Average income per capita in Croatian kn (2010.-2012.)	30.794	22.020	20.834
Average unemployment rate (2010.-2012.)	10,3%	13,4%	15,6%
Share of educated population from 16 to 65 years old (2011)	75,4%	73,3%	75,8%

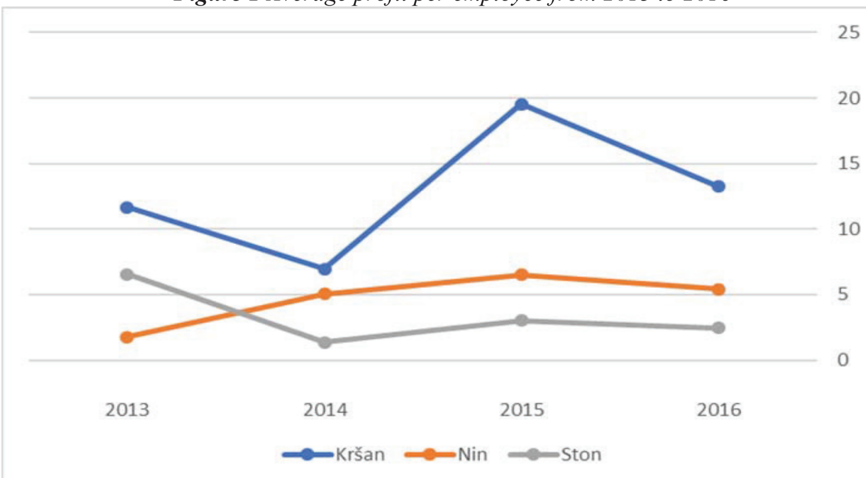
Source: author's calculations from Croatian Ministry of regional development and EU funds, 2017

Table 2 indicates bigger average revenue in case of Kršan than Nin, Ston. The lowest average unemployment rate was recorded in Kršan which parallelly ranks second in case of share of educated population from 16 to 65 years old. Results from Table 2 show better economic performance in case of Kršan. Ston has recorded higher level of education but the highest unemployment rate. Nin ranks second place in economic performance but third in level of education. According to the results, it can be concluded that all three destinations have strong potential in teritrary sector (tourism).

Economic analysis (average profitability, average revenues and costs, average asset value and employee cost vs. sales ratio) will be conducted in following part. Results refer to tourist sectors (NACE Rev. 2, Primary codes 55 - Accommodation, 56 - Food and beverage service activities) of Kršan, Nin and Ston.

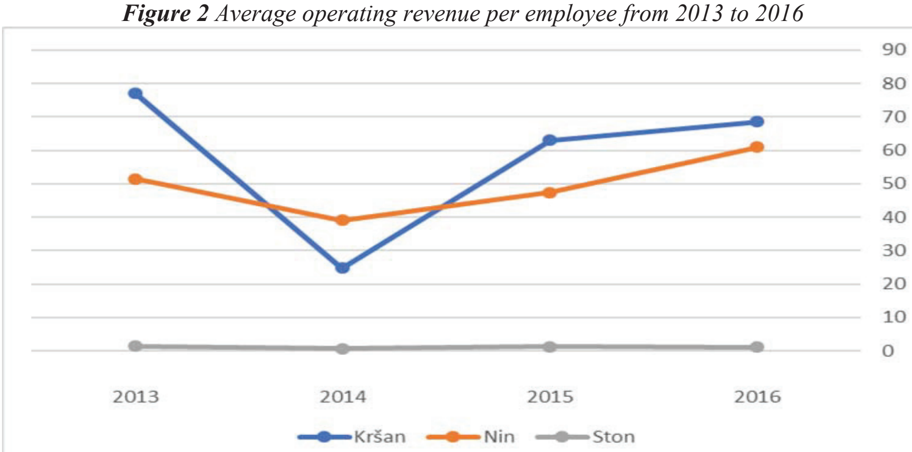
Figure 1 and Figure 2 indicate average profitability and average operating revenue per employee for selected tourist destinations (Kršan, Nin and Ston). All values are denominated in thousands of Euros.

***Figure 1** Average profit per employee from 2013 to 2016*



Source: author's calculations from Amadeus database, 2017

***Figure 2** Average operating revenue per employee from 2013 to 2016*

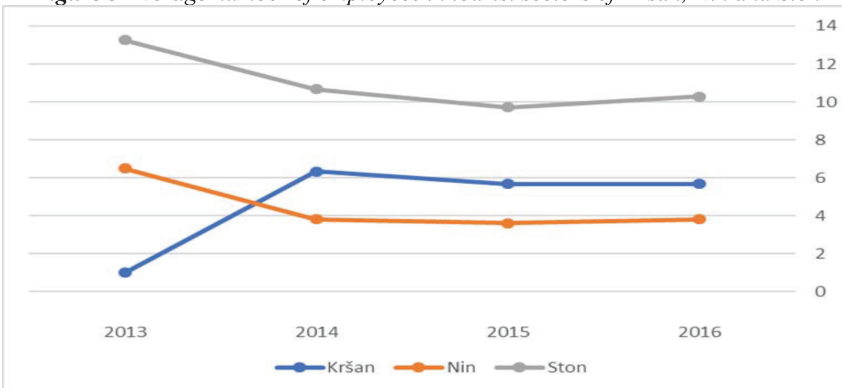


Source: author's calculations from Amadeus database, 2017

Figure 1 and Figure 2 indicate highest productivity and efficient allocation of resources in Kršan tourist sector. Nin ranks second and Ston has recorded the weakest performance in productivity and in efficient allocation of resources. Observed developing tourist destinations are characterized by volatile trend of average profit and revenue per employee. Moreover, figures show increasing employee's productivity in Nin while Kršan and Ston have recorded stagnating/decreasing productivity of workers.

Figure 3 illustrates average number of employed workers for tourist sectors of Kršan, Nin and Ston. The observed period is from year 2013 to 2016.

Figure 3 *Average number of employees in tourist sectors of Kršan, Nin and Ston*

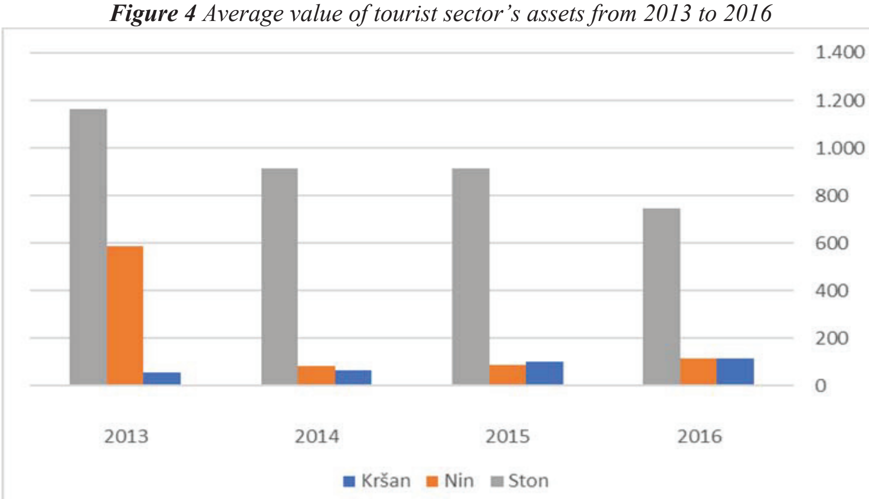


Source: author's calculations from Amadeus database, 2017

The beginning of observed period is characterized by negative trend of average number of workers employed in tourist sectors of Nin and Ston, but not for Kršan. However, average number of employees has been increased from year 2015 to 2016 in all tourist destinations. One of the main reasons is increasing foreign demand for tourist services.

Following Figure 4 measures average value of tourist sector's assets in case of Kršan, Nin and Ston. All values are denominated in thousands of Euros.

Figure 4 *Average value of tourist sector's assets from 2013 to 2016*



Source: author's calculations from Amadeus database, 2017

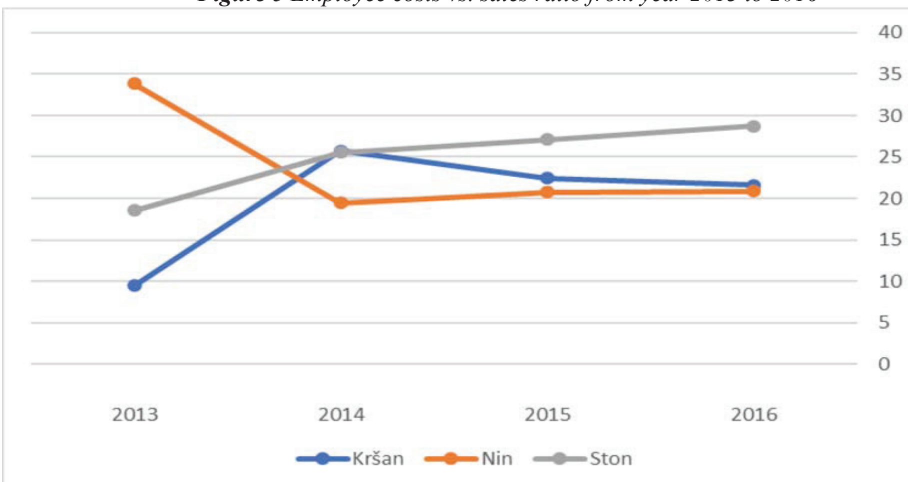
At the beginning of observed period, tourist sectors of Nin and Ston face decreasing asset value. On another way, Kršan characterizes increasing positive trend of asset investments in tourist sector. Furthermore, common characteristics of Kršan and Nin can be found in growing value of asset from year 2014 to year 2016.

This growth can be described as an influence of higher profit rates and reinvesting activities in tourist sector of Nin and Kršan. Additional evidence can be seen in revenue growth in year 2016.

Tourist sector of Ston confront with reduced value of asset, lower profit rates and operating revenues than in year 2013. Nevertheless, total average value of Ston is on higher level than Kršan and Nin.

Figure 5 indicates employee costs vs. sales ratio for tourist sectors of Kršan, Nin and Ston. Results from 15% to 30% indicate an excellent employee costs vs. sales ratio. Results from less that 30% imply on problem in operating business activities.

***Figure 5** Employee costs vs. sales ratio from year 2013 to 2016*



Source: author's calculations from Amadeus database, 2017

It can be stressed out that employee costs vs. sales ratio reaches normal level. In case of Kršan and Nin, ratio is lower/stagnating while in case of Ston ratio reaches higher levels.

Provided results justify reasons in which developing tourist destinations like Kršan, Nin and Ston are visited by foreign tourists with increasing number of overnight stays. Profitability and efficiency are characteristics of Nin and Kršan but not Ston. Leading tourist destination is Nin by overnight stays, but Nin has lack of efficiency and productivity level to achieve higer level of export competitiveness. Alternatively, Kršan showed developing and tourist potential with highest level of profit, asset value and revenue level.

4. Conclusion

The basis hypothesis of the research is confirmed, pointing out that „developing tourist destinations Kršan, Nin and Ston generally reach higher level of export competitiveness". In general, developing tourist destinations have recorded increasing trend of profitability, operating revenues, productivity and efficiency caused by the growth of overnight stays. By choosing developing tourist destinations Kršan, Nin and Ston, authors tried to identify international competitive position and potential as tourist destinations especially in culture tourism.

To achieve higher level of export competitiveness Croatian developing tourist destinations should:

- Increase level of destination's attractiveness for increasing authenticity in culture tourism;
- Present innovative content in business activities;
- Enhance accommodation facilities and related tourist services;
- Invest more in infrastructure (built easier entrance to authentic monuments and attractions, tourist signalization);

- Orientate towards marketing activities (media, promotion materials);
- Include intensified selling of souvenirs and regional products within tourist offer;
- Connecting tourist routes with commercial tourist contents;
- Do benchmarking with leading tourist destinations in Croatia;
- Connect intensively with other forms of domestic tourist offer.

REFERENCES

1) Books

Dwyer, L. et al. (2002): ***Destination and enterprise management for a tourism future United Nations Environment Programme***. Global environment outlook 3-past, Present, and future perspectives. United Nations Environment Program, Paris.

Conrady, R., Buck, M. (2010): ***Trends and Issues in Global Tourism 2010***. Berlin Heidelberg: Springer-Verlag.

Pirjevec, B. (1998): ***Ekonomska obilježja turizma***, Zagreb: Golden marketing.

2) Journal articles

Galović, Tomislav; Bezić, Heri; Mišević, Petar (2016): ***Verbal communication in the export of services in the Republic of Croatia***, Proceedings of The International Scientific Conference, Zagreb: Ekonomski fakultet Zagreb Sveučilišta u Zagrebu, pp. 269-285

Sobouti, Y. (2008): ***The Morality of Exact Sciences, Science and Technology and the Future Development of Societies***: International Workshop Proceedings. National Academy of Sciences, http://www.nap.edu/catalog/12185.html (accessed 12 December 2017)

World Tourism Organization (UNWTO) (2011): ***Affiliate Members AM-reports – Technology in Tourism*** (Vol. 1, 2011)

3) Internet resources:

Amadeus database (2017): https://amadeus.bvdinfo.com/ (accessed 12 December 2017)

Croatian Ministry of regional development and EU funds, (2017) : https://razvoj.gov.hr/o-ministarstvu/djelokrug-1939/regionalni-razvoj/indeks-razvijenosti/vrijednosti-indeksa-razvijenosti-ipokazatelja-za-izracun-indeksa-razvijenosti-2013/3214, (accessed 12 December 2017)

Državni zavod za statistiku RH (2017): www.dzs.hr , (accessed 12 December 2017)

Investing answers (2017): http://www.investinganswers.com/financial-dictionary/, (accessed 12 December 2017)

Mckinsey (2017): https://www.mckinsey.com/business-functions/, (accessed 12 January 2018)

Smallbusiness (2017): http://smallbusiness.chron.com/, (accessed 12 December 2017)

Jerko Glavaš, PhD, Associate Professor
Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek
Postal Address: Trg Ljudevita Gaja 7, 31000 Osijek, Croatia
Phone: 00 385 31 224 400
E-mail address: jerko.glavas@efos.hr

Ivan Uroda, PhD, Assistant Professor
University of Rijeka, Faculty of Economics
Postal Address: Ivana Filipovića 4, 51000 Rijeka, Croatia
Phone: 00 385 51 355 151
E-mail address: ivan.uroda@efri.hr

Tibor Santo, PhD Student
Studio HS internet d.o.o., Osijek and Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek
Postal Address: Kolodvorska 139, 31000 Osijek, Croatia
Phone: 00 385 31 215 528
E-mail address: tibor@studiohs.net

INTEGRATED MANAGEMENT OF BUSINESS PROCESSES - ADVANCED REGIONAL DEVELOPMENT REQUIREMENT

INTEGRIRANO UPRAVLJANJE POSLOVNIM PROCESIMA - POVOLJAN PREDUVJET REGIONALNOG RAZVOJA

ABSTRACT

Basic theories and terminologies state and argue that business process management implies a systematic approach to improving the overall business, as it also has the basis in a modern business approach to managing change in the function of improving business processes with the aim of achieving better business success. Identification and integrative business process building is a highly complex and responsible business management task of any organization, regardless of its size, structure or activity.

In order for an organization to achieve a competitive advantage, all its functions must be interconnected or integrated. Business Process Management adds value to the organization's resources and creates a variety of goods and services that meet the diverse needs and customer requirements. From the perspective of the process, business process management is considered as a management approach to good practice that is applied to help organizations achieve and maintain competitive advantages.

The purpose of this research is to analyze, synthesize and examine key business process concepts, business process management and its effects on organizational performance. At the same time, this paper contributes to a better understanding of the areas of competitive advantage and business process management. These processes lead to better organizational efficiency, greater penetration into the market and higher employability, which is one of the main preconditions for regional development. The paper uses appropriate scientific methods suitable for the analysis and processing of secondary data, some of which are in contexts, can also take on the primary character. The analysis also used data from the latest BPTrends report released in early 2018.

The aim of the paper is to present the possibilities of analysis and synthesis of business processes, to determine how companies organize, plan, execute and improve business processes, both individually in the specific economic field and in the general context.

Key words: *management, business process, development, efficiency, competitiveness.*

SAŽETAK

U osnovnim teorijama i terminologijama se navodi i obrazlaže da upravljanje poslovnim procesima podrazumijeva sustavan pristup poboljšavanju cjelokupnog poslovanja, jer isto ima svoje uporište u suvremenom poslovnom pristupu upravljanja promjenama u funkciji unaprjeđivanja poslovnih procesa s ciljem ostvarenja što boljeg poslovnog uspjeha. Identifikacija i integrativna izgradnja poslovnih procesa je vrlo složena i odgovorna poslovna obveza menadžmenta svake organizacije, bez obzira na njezinu veličinu, strukturu ili djelatnost.

Kako bi neka organizacija postigla konkurentsku prednost, sve njene funkcije moraju biti međusobno povezane, odnosno integrirane. Upravljanje poslovnim procesima dodaje vrijednost korištenjem resursa organizacije, te stvaranjem raznovrsnih dobara i usluga koje zadovoljavaju raznovrsne potrebe i zahtjeve kupaca. Iz perspektive procesa, upravljanje poslovnim procesima smatra se upravljačkim načelom dobre prakse koje se primjenjuje kako bi se pomoglo organizacijama postići i održati konkurentske prednosti.

Svrha ovog istraživanja je analizirati, sintetizirati i ispitati ključne koncepte poslovnih procesa, upravljanje poslovnim procesima kao i njegove učinke na organizacijske rezultate. Ujedno, ovaj rad doprinosi boljem razumijevanju područja konkurentske prednosti i područja upravljanja poslovnim procesima. Upravo navedeni procesi dovode do bolje organizacijske učinkovitosti, veće penetracije na tržište te veće zapošljivosti koja je jedan od glavnih preduvjeta regionalnog razvoja. U radu su korištene adekvatne znanstvene metode primjerene za analizu i obradu sekundarnih podataka od kojih neki, u odrađenim kontekstima. mogu poprimiti i primarni karakter. U analizi su također korišteni i podaci iz najnovijeg BPTrends izvješća objavljenog početkom 2018.

Cilj rada je prikazati mogućnosti analize i sinteze poslovnih procesa, utvrditi kako poduzeća organiziraju, planiraju, izvode i unaprjeđuju poslovne procese, kako pojedinačno u konkretnoj gospodarskoj grani, tako i u općem kontekstu.

Ključne riječi: *upravljanje, poslovni proces, razvoj, učinkovitost, konkurentnost.*

1. Introduction

When global economies experienced great progress in the late nineties of the last century, businesses were making profits very easily. It was so simple to realize good business results that companies did not pay attention to efficiency. However, after the fall of the global stock market, most businesses began to think about efficiency.
Most companies have great difficulty in defining business processes. Some define it one way, while others define it differently. Even if we come to a single definition, everyone would define it in their own way and in accordance with their needs and business. If we want to improve our efficiency, we need to be able to measure current processes. If these processes are not consistent, it is difficult to know how to be more effective. Furthermore, these inconsistencies are more likely to emerge at the product-quality level.

In today's world economy, which is, under the influence of globalization, expanding markets, but also approaching competition, many companies are looking for ways to increase efficiency and reduce operating costs. As a sequence of events, acceptance of the process approach as a key element of business (Zavacki, 2009, p. 1) appears. Printing and publishing are traditionally - and to some extent still - closely related industries. Publishing can be defined as the process of producing and disseminating information, making information available for public display. This refers to the distribution of works such as books, magazines, newspapers and sound recordings in printed or electronic form. Publishing includes different phases from development, acquisition, copying, graphic design and other publishing activities to real production (marketing) and distribution. Printing is a process of reproducing text and images, including related support activities such as book binding, plate making services, and data mapping. Methods used in printing include various methods for transferring images from panels, screens, or computer files to media such as paper, plastic, metal, textiles, or wood. In recent years, the relationship between the two sectors is decreasing, as the printed material has become less important for publishing companies, and digitalization, the Internet and new media have found their way. Boundaries between publishing and other industries began to disappear. (European Commission, Printing and Publishing - Comprehensive sectoral analysis of emerging competences and economic activities in the European Union, 2009.)

2. Position of graphic industry on micro and macro level

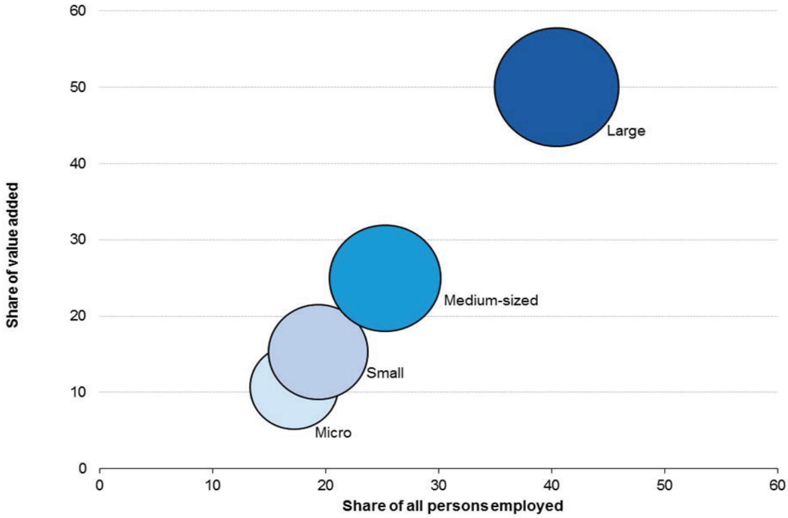
Looking at the overall picture of the phenomenon, we can conclude that the graphics and publishing industry has experienced a great growth especially with the development of new advanced technologies.

In the European Union in 2011 there were about 90 thousand companies with the primary categorization of graphic and publishing companies. In 2012, 900,000 people were employed, which is 0.7% of all employees in the non-financial business economy and 15.1% of the workforce of information and communication services. In 2012, the added value was estimated at EUR 60.0 billion, which is equivalent to 1.0% of total nonfinancial business, ie 11.6% of total information and communication services. The average staffing costs of the EU-28 publishing sector in 2012 amounted to EUR 44.0 thousand per employee, making them lower than the average for all information and communication services (EUR 51.7 thousand per employee). However, staffing costs for employees in graphic and publishing activities were above the average of non-financial business (32.4 thousand euros per employee).

From 2012 to 2018, the graphics industry experienced a major growth after the global economic crisis which had an absolutely negative impact on the current state of the graphics and publishing industry.

http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Publishing_activities_statistics__NACE_Rev._2#Further_Eurostat_information, 12.2.2018.).

Chart 1 Position of graphic industry on micro and macro level



Source: http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Publishing_activities_statistics__NACE_Rev._2#Further_Eurostat_information, 12.2.2018.).

It can be deduced logically that the largest business systems within the field of the graphics industry achieve the majority of value added and, in proportion, they employ more employees. Regardless of size, micro and small business systems have their market niches and are a respectable partner for medium and large companies in the graphics industry. The biggest reason is that it can respond quickly and efficiently to client needs and apply individual approach to the client.
To what extent each industry, and even the graphic industry, can be the lever of development, show certain indicators on the European Union market, the Republic of Croatia, but also on the territory of eastern Croatia.

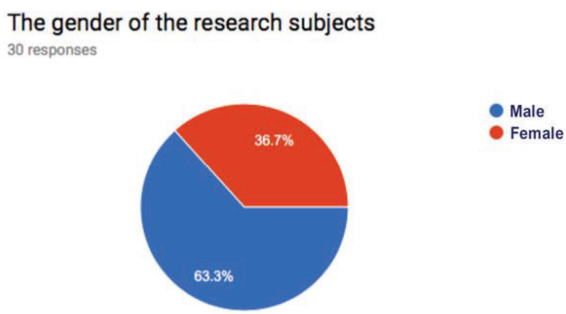
3. Empirical insight into the perception of the importance of business process management in the graphic industry of eastern Croatia

The 2005 survey showed that the process maturity of Croatian companies is 3.47 (Škrinjar, Hernaus, Indihar Štemberger, 2006). The average value of process maturity in the 2008 survey is 4.8769. This points to the fact that Croatian companies have progressed and that they are significantly more mature than in 2005. A higher process orientation leads to better financial and non-financial performances of companies in transition economies (Škrinjar, Bosilj Vukšić and Indihar Štemberger, 2007). During the period from these surveys up to this day, certain authors also looked for the answers to the efficiency of business process management, knowledge management and companies, and this work and research refers to the graphics industry, which is a specific form of organization precisely because of business processes and knowledge implemented in the processes themselves.

Empirical research was conducted in February and March 2018. The subject of the research was the state of business process management and knowledge in companies dealing with graphic affairs in eastern Croatia. 42 questionnaires were sent to 42 selected companies (large, medium and small) and 30 companies responded (responsiveness rate 71.43%).

The empirical research on the perception of the importance of business process management in the graphic industry in the eastern part of Croatia has been conducted by the method of online surveys on the targeted sample.
When it comes to the gender and age of the research subjects, it can be concluded that male gender is prevalent in the investigated sample in 2/3 of graphic companies.

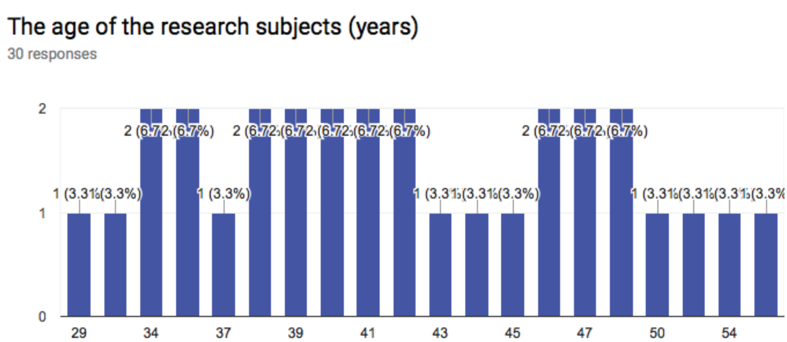
***Chart 2** The gender of the research subjects*



Source: Authors

When it comes to the age of the subjects, then the situation is very interesting but also awaited. The largest concentration of management age structure of graphic companies is between 38 and 42, while the next dominant age group is 46 to 48.

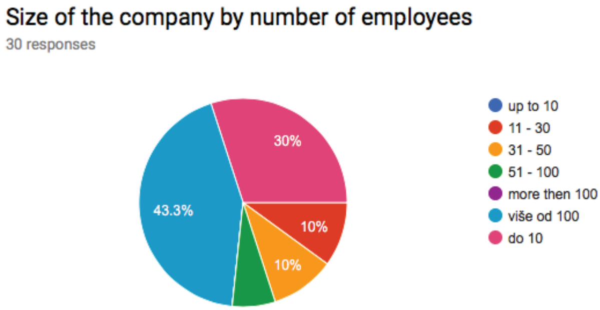
***Chart 3** The age of the research subjects*



Source: Authors

With regard to the size of the companies according to the number of employees, those companies with more than 100 employees (43.3%) are dominant, which represents an additional argument in favor of the development of the graphic industry in the Republic of Croatia especially in Eastern Croatia where every job position and development of all segments in business sector is crucially important.

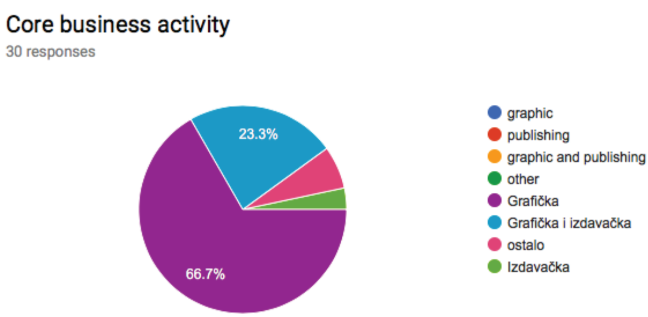
Chart 4 *Size of the company by number of employees*



Source: Authors

According to the business structure of the companies, the graphic activity (design, graphic preparation, web design, printing, finishing and other) is dominated, and the combination of companies that perform the graphic activity make up more than 90% of the total structure of the research companies.

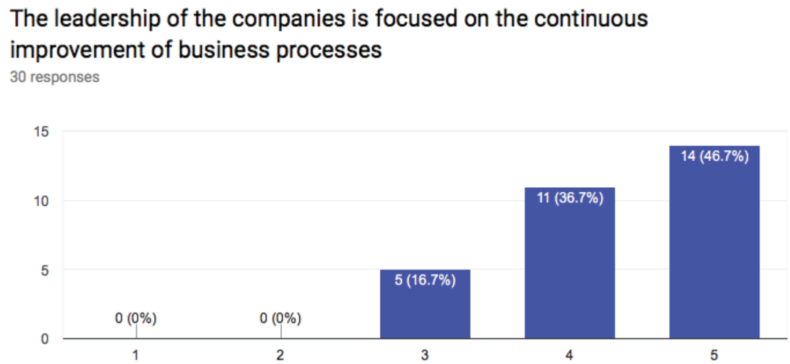
Chart 5 *Core business activity*



Source: Authors

When talking about the main research segment and the prerequisite for further development of the observed companies, all subjects have said that the leadership of the company is focused on steady improvement of the business processes, and almost 50% of them have said that it is their main activity and that they depend on it.

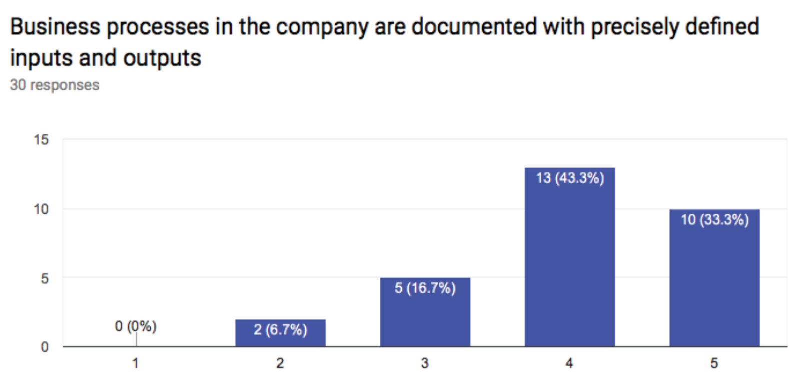
Chart 6 *The leadership of the companies is focused on the continuous improvement of business processes*



Source: Authors

The fact that business processes are precisely defined and documented within a business system implies constant control and improvement of the same processes, but only 33% of research subjects expressed a complete consistency with the stated statement, which indicates the need for refinement and improvement of the system.

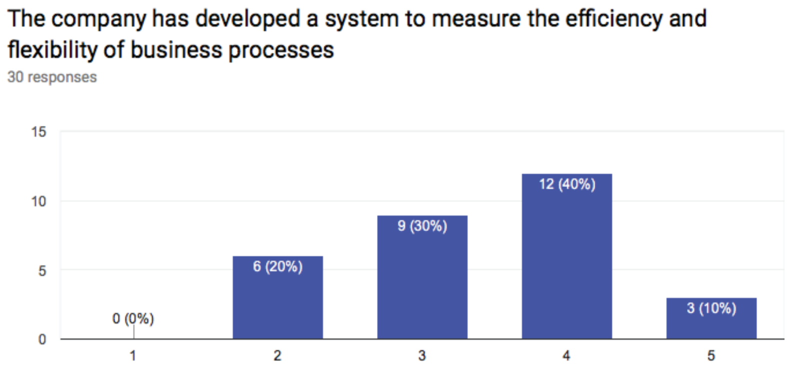
Chart 7 *Business processes in the company are documented with precisely defined inputs and outputs*



Source: Authors

Efficiency and flexibility of business processes is crucial for companies in the graphics industry and the research has also led to the conclusion that this is the area to which the owners and business managers need to pay maximum attention. These processes directly affect the business outcome, as well as other factors that affect the development of a particular business system and the macro and micro region in which they operate.

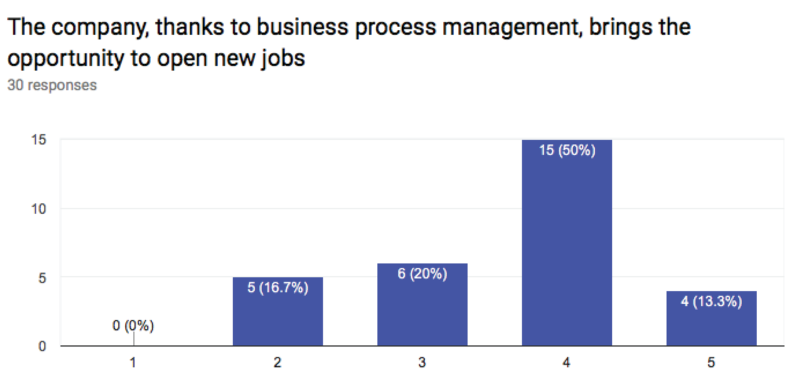
Chart 8 *The company has developed a system to measure the efficiency and flexibility of business processes*



Source: Authors

Almost 2/3 of research subjects believe that the company, thanks to successful business process management, creates the preconditions for opening up potential jobs. They also believe that companies thus influence the development of complementary activities in their business environment.

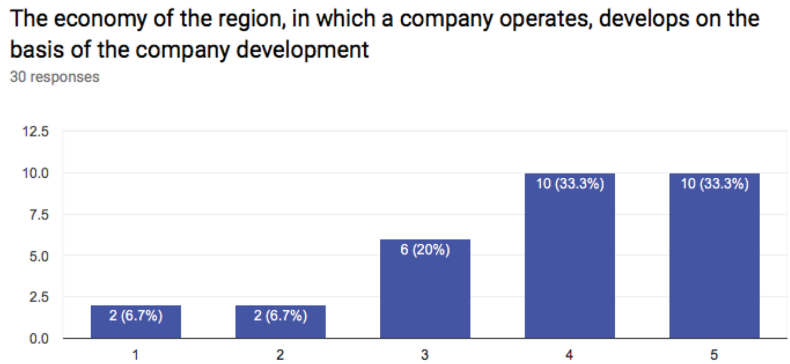
Chart 9 *The company, thanks to business process management, brings the opportunity to open new jobs*



Source: Authors

The key segment and the subject of this paper is: If a graphic company is developing, is the economy of the region in which the business operates also developing? This question was positively answered by 20 out of the 30 companies surveyed where they stated their agreement with the stated statement, and furthermore, they stated that people are a key factor in the development of the graphics industry, that they directly depend on business processes in the company that are directly under the influence of company management.

Chart 10 *The economy of the region, in which a company operates, develops on the basis of the company development*



Source: Authors

The development of a particular national economy is naturally linked to the growth of all single activities, including the graphics industry. However, the impact of the growth of the graphic industry is still the most visible in the economically underdeveloped parts of the Republic of Croatia, especially in a large part of eastern Croatia, which faces major demographic changes, emigration of the population and the problem of unemployment. Encouraging the graphics industry and all other activities means new jobs and the development of other business branches that are directly or indirectly linked to the graphic industry.

4. Instead of a conclusion

Business process management is a key factor in the functioning of each individual company within the graphics industry. This paper presents the importance of the graphic industry at the regional level, which can easily be improved by further refinement of the business process management system, thus affecting the further development of eastern Croatia.

As the research has shown, there is constant concern about business processes and their improvement, but also, there is the need for these processes to develop in order to achieve the best effectiveness and profit as a unique economic component. Therefore, there is also the need for education and employment of competent employees, which directly affects the development of eastern Croatia and the Republic of Croatia as a whole.

Integrated business process management greatly improves the competitiveness of the company itself and increases the degree of innovation of the company, which in practice leads to faster and more flexible company decisions on changing market conditions. By increasing the competitiveness of the company, the competitiveness of the region is increasing too.

REFERENCES

Bosilj Vukšić, V., Milanović, Lj., Škrinjar, R., Indihar Štemberger, M. (2008.), Organizational Performance Measures for Business Process Management: a Performance Measurement Guideline, UKSim 10th International Conference on Computer Modelling and Simulation -

EUROSIM/UKSim 2008 (urednici: D. AlDabass, A. Orsoni, A. Brentnall, A. Abraham, R. Zobel), 1-3.04.2008., Cambridge, UK.

Davenport, T.H., Prusak, L. (2000.), Working knowledge: How organizations manage what they know, Boston: Harvard Business School Press

Glavaš, J. (2012.), Uloga znanja u generiranju konkurentske prednosti, doktorska disertacija, Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek

Milanović, Lj., (2009.), Upravljanje poslovnim procesima i znanjem primjenom informacijske tehnologije u hrvatskim poduzećima, Sveučilište u Zagrebu, Ekonomski fakultet Zagreb, specijalistički poslijediplomski rad, Zagreb

Škrinjar, R., Hernaus, T., Indihar-Štemberger, M. (2006.), Business Process Orientation Construct Analysis – Slovenia and Croatia, 3rd International Conference An Enterprise Odyssey: Integration or Disintegration, 15-17 June, Zagreb, Croatia, 1435-1447

Tršinski, Z., Glavaš, J., Stanić, M. (2016.), Impact of knowledge and higher education on the development of innovation in C
roatia // 8th International Conference The Economies of Balkan and Eastern Europe Countries in the changed world EBEEC, Split

Uroda, I., Glavaš, J., Delač, K. (2017.), Economic benefits of modern marketing and its communication strategies across social media // 6. međunarodni znanstveni simpozij gospodarstvo istočne hrvatske – vizija i razvoj / 6th international scientific symposium economy of eastern Croatia – vision and growth / Mašek - Tonković, Anka (ur.). Osijek: Sveučilište Josipa Jurja Strossmayera u Osijeku i Ekonomski fakultet u Osijeku, str. 275-289.

Zavacki, Z. (2009.), Business Process Management [online] , Zagreb: Process System Intelligence, available on: http://kvaliteta.inet.hr/e-quality/prethodni/17/BPM.pdf (17. 1. 2018)

Tihana Kraljić, PhD
Carevdar 164, 48 260 Križevci
Phone:+(0) 98 953 72 83 Fax: +385(0) 48 691 136
E-mail: tihana.kraljic@kc.t-com.hr

Ivana Bekić, PhD student
J.J. Strossmayer University in Osijek, Croatia
Doctoral program in Entrepreneurship and Innovativeness
Phone:+(0) 91 122 2501 Fax: +385(0)1 38 82 813
E-mail address: ivana.bekic@gmail.com

EFFICIENT USE OF EU FUNDS FOR THE DEVELOPMENT OF EASTERN CROATIA

UČINKOVITO KORIŠTENJE SREDSTAVA EU FONDOVA ZA RAZVOJ ISTOČNE HRVATSKE

ABSTRACT

The aim of this paper is to explore the efficiencyand implications of the implementation of the Slavonija, Baranja and Srijem Project launched by the Ministry of Regional Development and EU funds in order to spend EUR 2.5 billion (HRK 18.75 billion) or 23.42% of the total allocation of EUR 10.6 billion from European Structural and Investment Funds (ESI) for the 2014-2020 period on projects run in five counties: Brod-Posavina, Osijek-Baranja, Požega-Slavonia, Virovitica-Podravina and Vukovar-Srijem. The study investigates the justification for such a decision and whether it is based on the poverty map designed by World Bank in 2016 upon the request oftheMinistry of Regional Development and EU funds.
The paper analyses data on contracted funds for the period between October 18, 2016 and January 19, 2018 by operational programmes (OP) and other EU sources:Competitiveness and Cohesion OP, Efficient Human Resources OP, Maritime Affairs and Fisheries OP, Rural Development Programme, European Territorial Cooperation (ETC) and by five counties participating in the Programme in order to see which of the above operational programmes and other sources sparked the interest of most users and which of the five counties has been the most successful.The paper also explores the impact of the implementation of the Slavonija, Baranja and Srijem Programme on the efficiency of using funds from European Structural and Investment Funds and other EU sources at disposal to the Republic of Croatian in the EU 2014-2020 planning and financial period.
The central question this paper seeks to answer is whether the implementation of the Slavonija, Baranja and Srijem Project slows down or accelerates contracting and using EU sourced funds in Croatia, whether the existing division of Croatia into two NUTS II levels is a good solution or whether the implementation of the Slavonija, Baranja and Srijem Project, as a sign of the decentralization of the system governing the use of EU funds, may serve as a modality of and path towards more efficient use of EU funds.

Key words: *the Slavonija, Baranja and Srijem Project, poverty map, efficiency of the use of EU funds, NUTS II level, decentralization of the system governing the use of EU funds.*

SAŽETAK

Cilj rada je istražiti učinkovitost i implikacije provedbe Programa Slavonija, Baranja i Srijem kojeg je pokrenulo Ministarstvo regionalnog razvoja i fondova Europske unije kako bi se 2,5 *milijardi eura (18.75 milijardi kuna) ili 23,42 % ukupne alokacije od 10,6 milijardi eura iz Europskih strukturnih i investicijskih (ESI) fondova za razdoblje 2014.-2020. utrošilo na projekte iz pet županija: Brodsko-posavsku, Osiječko-baranjsku, Požeško-slavonsku, Virovitičko-podravsku i Vukovarsko-srijemsku županiju. Istražuje se da li je takva odluka opravdana i da li ima temelj u karti siromaštva koju je na zahtjev Ministarstva regionalnog razvoja i fondova EU izradila Svjetska banka 2017. godine. U radu se analiziraju podaci o ugovorenim sredstvima za razdoblje od 18.10.2016. do 19.1.2018. po operativnim programima i ostalim EU izvorima: Operativni program konkurentnost i kohezija, Operativni program učinkoviti ljudski potencijali, OP za pomorstvo i ribarstvo, Program ruralnog razvoja i Europska teritorijalna suradnja i po pet županija koje sudjeluju u programu, kako bi se vidjelo za koji od navedenih operativnih programa i ostalih izvora korisnici iskazuju najviše interesa, te koja je od pet županija najuspješnija. Također se analizira utjecaj provedbe Programa Slavonija, Baranja i Srijem na učinkovitost korištenja sredstava iz Europskih strukturnih i investicijskih fondova i ostalih EU izvora koji su na raspolaganju Republici Hrvatskoj u planskom i financijskom razdoblju Europske unije 2014.-2020. godina. Kroz rad se želi dati odgovor na pitanje da li provedba Programa Slavonija, Baranja, Srijem usporava ili ubrzava ugovaranje i korištenje sredstava iz EU izvora u Hrvatskoj, da li je postojeća podjela Hrvatske na dvije NUTS II razine dobro rješenje ili je provedba Projekta Slavonija, Baranja, Srijem kao naznaka decentralizacije sustava koji upravlja korištenjem sredstava iz fondova EU modalitet i put prema učinkovitijem korištenju sredstava iz fondova EU.*

Ključne riječi: *Projekt Slavonija, Baranja, Srijem, karta siromaštva, učinkovitost korištenja sredstava iz fondova EU, NUTS II razina, decentralizacija sustava korištenja sredstava iz EU fondova.*

Introduction

On July 1, 2018 the Republic of Croatia will mark the fifth anniversary of its accession to the EU. This is, by all means, the right time to make an assessment of the expectations and results of this historically important event for the Republic of Croatia.
One of the topics which will definitely be discussed is the efficiency of the use of EU funds by Croatia, but also the contribution of Croatia to the achievement of goals set in the main EU strategic document for the 2014-2020 period – Europe 2020:strategy for smart, sustainable and inclusive growth. The aim of the paper is to examine the efficiency and implications of the implementation of the Slavonija, Baranja and Srijem Project launched by the Ministry of Regional Development and EU funds in order to spend EUR 2.5 billion (HRK 18.75 billion) or 23.42% of the total allocation of EUR 10.6 billion from European Structural and Investment Funds (ESI) for the 2014-2020 period on projects run in five counties: Brod-Posavina, Osijek-Baranja, Požega-Slavonia, Virovitica-Podravina and Vukovar-Srijem.
The central question this paper seeks to answer is whether the implementation of the Slavonija, Baranja and Srijem Project slows down or accelerates the negotiation and use of EU sourced funds in Croatia, whether the existing division of Croatia into two NUTS II levels is a good solution or whether the implementation of the Slavonija, Baranja and Srijem Project, as a sign of decentralization of the system governing the use of EU funds, may serve as a modality of and path towards more efficient use of EU funds.

1. Slavonija, Baranja and Srijem Project – justification and basis for project launch

The use of funds from ESI funds and other EU sources represents one of the greatest benefits of Croatia's accession to the European Union. For Croatia it means a completely different approach to the use of funds and the removal of obstacles which insufficient funds used to represent to financing capital and infrastructural projects, but at the same time it imposed the obligation to measure the

efficiency of the use of EU funds and the contribution made by the Republic of Croatia as a member of the EU to the achievement of goals set in the main EU strategic document for the 2014-2020 period – Europe 2020: strategy for smart, sustainable and inclusive growth.
With the above strategy the European Commission has set very ambitious goals related to employment, innovation development, education, climate and poverty reduction.
These are specific objectives:
1. ensure a 75% employment rate for individuals aged 20 - 64;
2. invest 3 % of European GDP in research and development;
3. reduce emissions of greenhouse gasses by 20% or even30% compared to the situation in 1990., meet 20 % of energy needs from renewable sources and increase energy efficiency by 20%;
4. decrease school dropout rate to less than 10 % and make sure that at least 40 % of individuals aged 30-34 complete tertiary education;
5. reduce the number of people at risk of poverty or social exclusion by 20 million (European Commission, 2014)
In order for Croatia to be able to document its contribution to the achievement of EU common goals, it is necessary to have initial data for each of the stated objectives. For example, for objective 5 (reduce the number of people at risk of poverty or social exclusion by 20 million), Croatia (Ministry of Regional Development and EU Funds, 2016) entrusted the World Bank with developing the Poverty Map for Croatia within the Reimbursable Advisory Services Agreement (RAS).
One of the main indicators calculated on the basis of European Union Statistics on Income and Living Conditions Survey (EU-SILC) is the at-risk-of poverty rate (AROP rate).
At-risk-of-poverty threshold has been set at 60 % of the national median equivalised disposable income after social transfer. At-risk-of-poverty rate indicates the share of people having an equivalised disposable income in a particular part of a country who live below the at-risk-of-poverty threshold. In the development of poverty map for Croatia, the World Bank applied the consumption-based methodology, which is relevant to the NUTS II level regions. For the NUTS III level (counties) and LAU I (cities) and LAU II (municipalities) levels it used the Small Area Estimation method – SAE (Guadarrama et al., 2016).

1.1. Poverty map for the Republic of Croatia

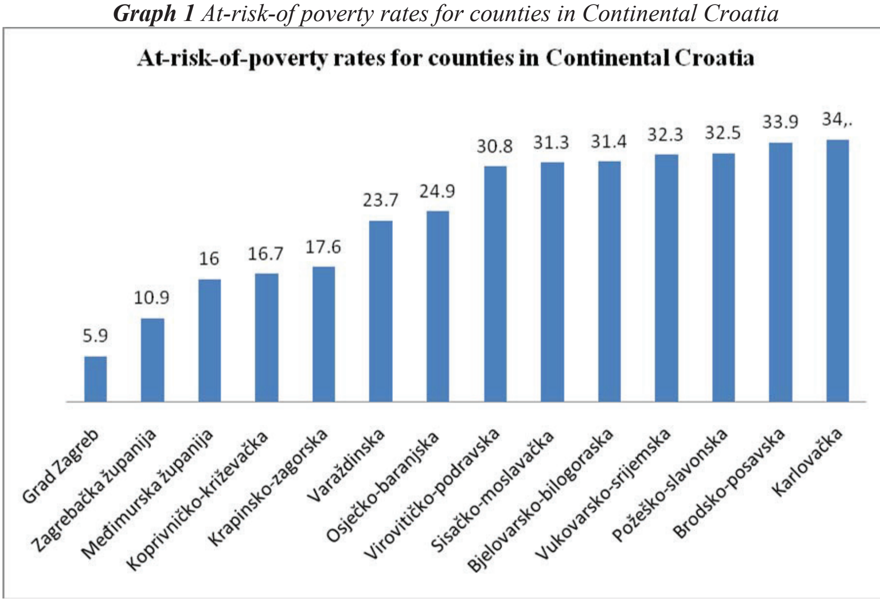
Consumption-based poverty mapping methodology was developed using data from the Consumption Survey representative of the national level, which was conducted by the Croatian Bureau of Statistics in the period of 12 months.
On December 31, 2012 the national at-risk-of poverty rate in Croatia amounted to 20.4%, in other words, this was the percentage of people in Croatia who lived below the poverty threshold (for the purpose of the research the threshold was set at HRK 23,918.62).
Looking at NUTS 2 level, it is obvious that the at-risk-of poverty rate of22%in Continental Croatia is higher than that in Adriatic Croatia at17%.
For counties, cities and municipalities the Small Area Estimation (SAE) method was applied. This method alongside the Household Survey also takes into consideration census data, thus providing more accurate estimates for smaller areas. This is necessary so that public policy makers may direct their activities and measures towards those counties, cities and municipalities where they are most needed.
Within Continental Croatia there are huge differences in the at-risk-of- poverty rate at NUTS III level (counties/the City of Zagreb). The City of Zagreb has a 5.9%at-risk-of poverty rate, while the Karlovac County has a 34.3% at-risk-of poverty rate.

Table 1 *At-risk-of- poverty rate for Continental Croatia at NUTS III level*

NUTS III	POPULATION	AT-RISK-OF POVERTY RATE	NUMBER OF PEOPLE LIVING BELOW AT-RISK-OF-POVERTY THRESHOLD
Grad Zagreb	722,340	5.9	42,618
Zagrebačka županija	311,918	10.9	33,999
Međimurska županija	110,888	16	17,742
Koprivničko-križevačka	112,540	16.7	18,794
Krapinsko-zagorska	129,393	17-6	22,773
Varaždinska	170,380	23.7	40,380
Osječko-baranjska	297,230	24.9	74,010
Virovitičko-podravska	83,129	30.8	25,604
Sisačko-moslavačka	168,534	31.3	52,751
Bjelovarsko-bilogoraska	117,420	31.4	36,870
Vukovarsko-srijemska	174,324	32.3	56,306
Požeško-slavonska	75,912	32.5	24.671
Brodsko-posavska	154,863	33.9	52.499
Karlovačka	125,722	34.3	43,123

Source: World Bank, November 2016 CroatiaSmall Area Consumption Poverty Estimation (Poverty Maps), adapted by authors, The World Bank had access to census data for 2011 through a special data room of the Croatian Bureau of Statistics according to the Agreement

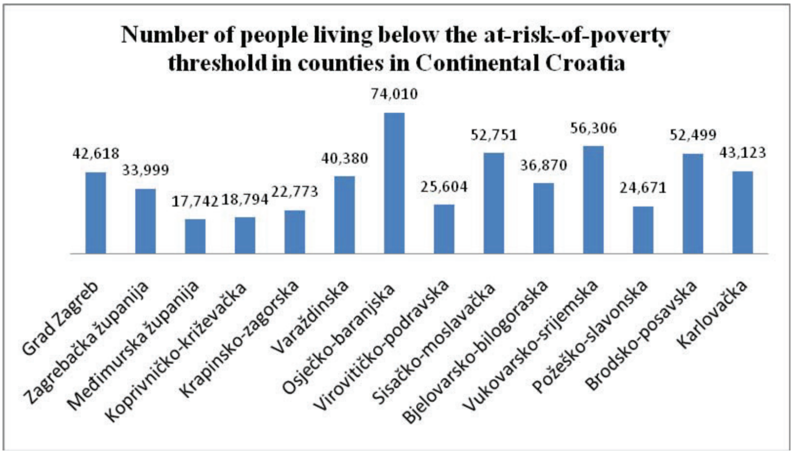
Graph 1 *At-risk-of poverty rates for counties in Continental Croatia*



Source: World Bank, November 2016 Croatia Small Area Consumption Poverty Estimation (Poverty Maps), adapted by authors

In order to have a realistic idea about the number of people who live below the at-risk-of-poverty threshold it is necessary to establish a ratio between the population in a particular county and the at-risk-of-poverty rate in that county. The largest number of people living below the poverty threshold can be found in the Osijek-Baranja County (74,010), which is followed by Vukovar-Srijem County(56,306) and Brod-Posavina County(52,499). Thus in Karlovac County, even though it has the highest at-risk-of-poverty rate, the number of people living below poverty threshold is smaller than in these three counties.

Graph 2 *Number of people living below the at-risk-of-poverty threshold in counties in Continental Croatia*

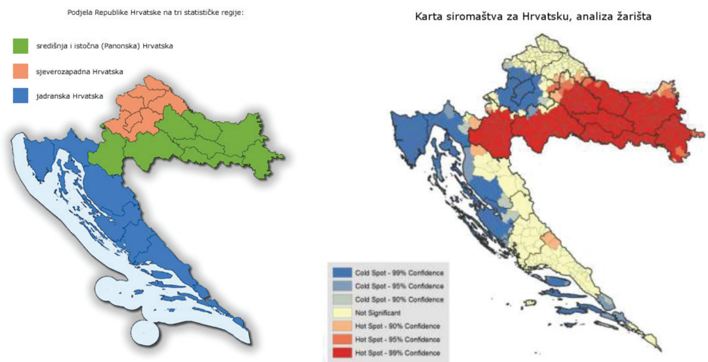


Source: World Bank, November 2016 Croatia Small Area Consumption Poverty Estimation (Poverty Maps), adapted by authors

Data from the poverty map for Continental Croatia at NUTS III level have revealed that in three neighbouring counties in Slavonia: Osijek-Baranja, Vukovar-Srijem and Brod-Posavina there is the largest number of people living below the poverty threshold.Taking into account that Continental Croatia has a higher at-risk-of poverty rate than Adriatic Croatia it is clear that these are the three poorest counties in Croatia and that it was necessary to come up with some new, additional measures for this area in order to lower the number of people living below the at-risk-of-poverty threshold and reduce the differences between counties.
Ministry of Regional Development and EU Funds decided to launch the Slavonija, Baranja and Srijem Project in order to spend EUR 2.5 billion (HRK 18.75 billion) or 23.42% of the total allocation of EUR 10.6 billion from European Structural and Investment Funds (ESI) for the 2014-2020 period on projects run in five counties in Slavonija: Brod-Posavina, Osijek-Baranja, Požega-Slavonia, Virovitica-Podravina and Vukovar-Srijem.
It is a good idea to remind ourselves of the initial division of the Republic of Croatia at NUTS II level, according to which it was divided into three statistical regions: Central and East(Panonian) Croatia, Northwest Croatia and Adriatic Croatia.
Before EU accession Croatia was supposed to harmonize statistical special units according to the EU classification, which is defined in accordance with NUTS1 methodology stipulated by theRegulation (EC) No 1059/2003 of the European Parliament and of the Council on the establishment of a common classification of territorial units for statistics (NUTS), (Nomenclature des unites territoriales statistiques) (Bošnjak, Tolušić, 2012).

The first official National Classification of Spatial Units for Statistics (NKPJS), (NN - Official Gazette35/07) was published in March of 2007.

Figure 1 *Map of the division of the Republic of Croatia into three statistical regions and Poverty map for the Republic of Croatia: analysis of focal points*



Source: World Bank, November 2016 Croatia Small Area Consumption Poverty Estimation (Poverty Maps)

When the Map of the initial division of Croatia at NUTS II level is compared to the Poverty Map for the Republic of Croatia depicting the analysis of focal points it is obvious that the initial division into three regions, one being Central and East (Panonian) Croatia, actually comprised the focal area with the highest at-risk-of poverty rate.

The Slavonija, Baranja and Srijem Project was designed by the Ministry of Regional Development and EU Funds in order to spend EUR 2.5 billion (HRK 18.75 billion) or 23.42% of the total allocation of EUR 10.6 billion from European Structural and Investment Funds (ESI) for the 2014-2020 period on projects run in five counties: Brod-Posavina County, Osijek-Baranja County, Požega-Slavonia County, Virovitica-Podravina County and Vukovar-Srijem County.

When making this decision the Ministry was led by the desire to provide EU funding for this part of Continental Croatia that would bridge the gap between other parts of Continental Croatia and Adriatic Croatia on one hand and the five Slavonian counties on the other.

1.2. Implementation of the Slavonija, Baranja and Srijem Project from October 18, 2016 to January 19, 2018

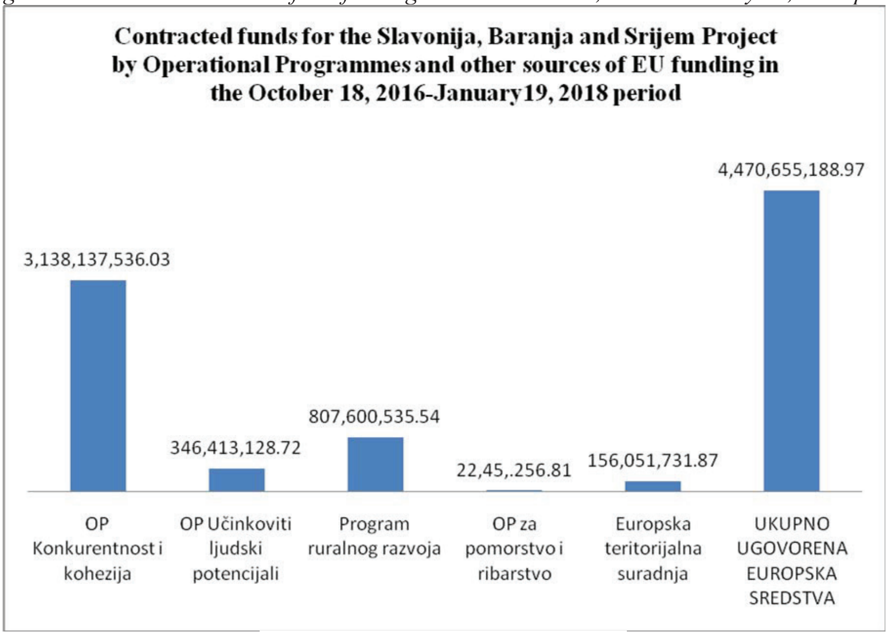
Table 2 *Slavonija, Baranja and Srijem Project–value of contracts concluded from October 18, 2016 to January 19, 2018*

	ALL 5 COUNTIES	% CONTRACTED FUNDS	% ALLOCATION
Competitiveness and Cohesion OP	3,138,137,536.03	70.16	16.74
Efficient Human Resources OP	346,413,128.72	7.75	1.85
Rural development programme	807,600,535.54	18.10	4.31
Maritime Affairs and Fisheries OP	22,452,256.81	0.50	0.12
European Territorial Cooperation (ETC)	156,051,731.87	3.49	0.82
TOTAL OF CONTRACTED EUROPEAN FUNDS	**4,470,655,188.97**	**100**	**23.84**
ALLOCATION FOR THE SLAVONIJA, BARANJA AND SRIJEM PROJECT (HRK)	**18,750,000,000.00**		

Source: Structural funds, adapted by authors

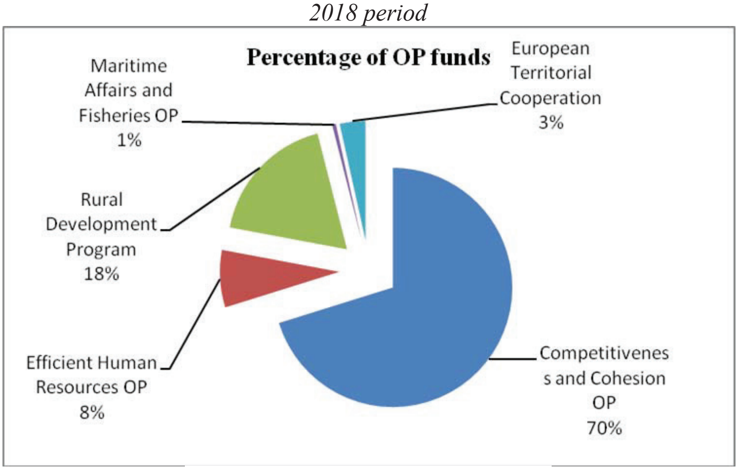
In the given period from October 18, 2016 to January 19, 2018, 23.84% of allocated funds were contracted for the Slavonija, Baranja and Srijem Project. The largest share came from Competitiveness and Cohesion OP (70%), which was followed by the Rural Development Programme (18%), while Efficient Human Resources OP provided the smallest share of the three (8%).

__Graph 3__ Contracted funds for the Slavonija, Baranja and Srijem Projectby Operational Programmes and other sources of EU funding in the October 18, 2016 - January 19, 2018 period



Source: Structural funds, adapted by authors

__Graph 4__ Percentage of contracted funds for the Slavonija, Baranja and Srijem Project by Operational Programmes and other EU funding sources in the October 18, 2016 - January 19, 2018 period



Source: Structural funds, adapted by authors

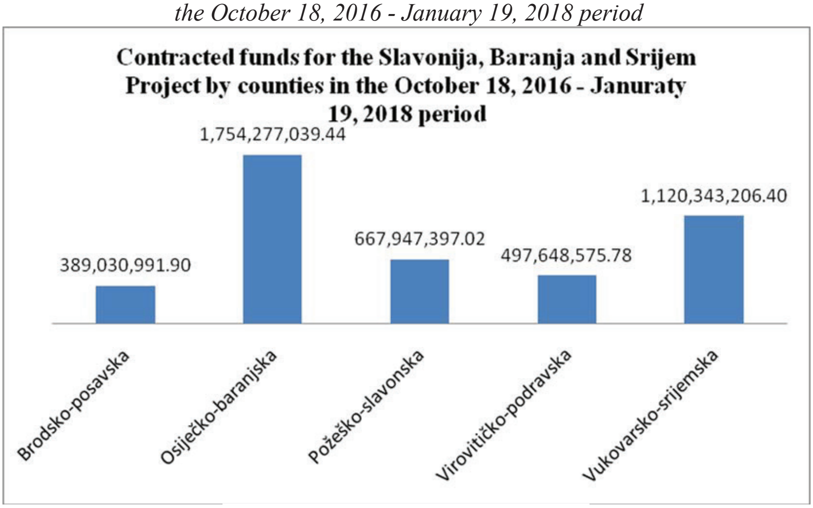
Table 4 *Slavonija, Baranja and Srijem Project–value of the concluded contracts from October 18, 2016 to January 19, 2018 by Operational Programmes and other EU funding sources and by Counties*

	Brodsko-posavska	Osiječko-baranjska	Požeško-slavonska	Virovitičko-podravska	Vukovarsko-srijemska
Competitiveness and Cohesion OP	220,852,796.86	1,301,239,967.17	535.927.175.12	271.423.031.75	808.694.566.13
Efficient Human Resources OP	34.306.519.41	82.353.171.87	46.798.929.96	25.782.647.94	116.862.114.18
Rural development programme	125,190,307.62	291,350,415.05	70,040,070.08	158,673,390.27	162,340,352.52
Maritime Affairs and Fisheries OP	-	11,212,917.22	14,695.20	11,224,644.39	-
European Territorial Cooperation	8,681,369.01	68,114,568.13	15,175,526.66	30,544,843.43	32,445,173.57
Contracted European funds TOTAL	389,030,991.90	1,754,277,039.44	667,947,397.02	497,648,575.78	1,120,342,206.40
%	8.7	39.24	14.94	11.13	25.06

Source: Structural funds, adapted by authors

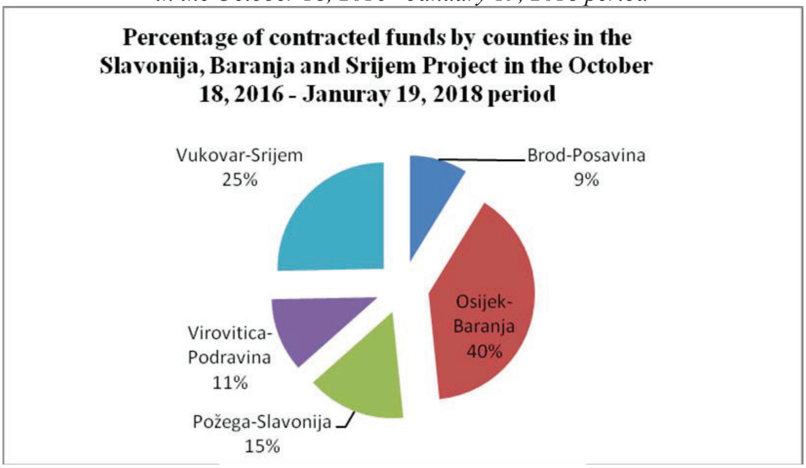
Here we should also add projects from the Efficient Human Resources OP that are implemented in several counties and are worth HRK40,318,745.36 as well as funds from European Territorial Cooperation worth HRK 1,090,251.08, which makes a total of HRK 41,408,996.44 (0,93%).

Graph 5 *Contracted funds for the Slavonija, Baranja and Srijem Project by counties in the October 18, 2016 - January 19, 2018 period*



Source: Structural funds, adapted by authors

Graph 6 *Percentage of contracted funds by counties in the Slavonija, Baranja and Srijem Project in the October 18, 2016 - January 19, 2018 period*



Source: Structural funds, adapted by authors

The largest amount of funds and percentage of contracted funds was used by the Osijek-Baranja County (40%), which was followed by the Vukovar-Srijem County (25%) and Požega-Slavonija County (15%). The smallest percentage was used by Virovitica-Podravina County with 11% of contracted funds and Brod-Posavina County with 9% of contractedfunds.

At the end of January the Ministry of Regional Development and EU Funds published the results on the use of EU funds. According to the report of the Ministry, in the period between November 2016 and December 31, 2017 funds to the amount of EUR 3,715,997,204 have been contracted for Croatia. In the approximately same period EUR 588,244,103 was contracted for the Slavonija, Baranja and Srijem Project, which accounts for 15.85% of the contracted funds total.

One of the main drawbacks of the Slavonija, Baranja and Srijem Project is the fact that this option was not considered in the process of programming operational programmes for the 2014-2020 period. Had it been considered, a separate Operational Plan would have been developed then and the desired allocation of the funds would have been made much earlier. That would have enabled taking into consideration the specific features of the given area in the call for tenders.

As this was not the case, users from all over Croatia are now applying for tenders and priority is given to the users from the Slavonija, Baranja and Srijem Project based on set criteria. As a result, it is taking longer to prepare tenders and there is a delay in their publication.

All the above suggests that developing programmes for the new 2014-2020 planning and financial period should involve considering a different division at NUTS II level and, accordingly, developing Operational Programmes and adjusting them as well as introducing a new institutional implementation system. Croatia is a small country, but is very specific and diverse, which creates an opportunity, but also a need for designing policies and measures that will make the differences between the developed and undeveloped areas less pronounced.

Conclusion

The launch of the Slavonija, Baranja and Srijem Project by the Ministry of Regional Development and EU Funds may be considered as a good example of how the central government may respond to important developmental issues in Croatia.

It should also be emphasised that the decision to launch the Project was based on Poverty Maps, i.e. an analytical basis which, undoubtedly, indicates the problems Eastern Slavonia is facing.

Given the results Croatia achieved in the use of EU funds by December 31, 2017, i.e. four years after the beginning of the 2014-2020 planning and financial period, it is clear that such a centralised institutional system does not yield the desired results and that programmes for the 2021-2027 period should take this into consideration.

REFERENCES

Bošnjak S., Tolušić E. (2012) NUTS II regije kao dio Kohezijske politike Europske unije, *Praktični menadžment, Vol. III, br. 5, str. 79-84,* str.79.

file:///C:/Users/CroatianPC/Downloads/PM_br5_cl11%20(1).pdf

Guadarrama M.,Molina I. ,Rao J. N. K. (2016) Small area estimation - SAE A Comparison of Small Area Estimation Methods for Poverty Mapping, Zakład Wydawnictw Statystycznych GUS, *Journal Statistics in Transition new series*Vol.17, Issue 1, Pgs 41-66

http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-4cdb9c32-492c-47af-8eb3-f11dd47a307a

Europska komisija (2014) Politike Europske unije: Europa 2020.: europska strategija rasta

https://vlada.gov.hr/UserDocsImages/Europski%20semestar/Dokumenti%20i%20publikacije/Bro%C5%A1ura%20Europa%202020%20(EK%202014).pdf

Eurostat, Glossary:At-risk-of-poverty rate

http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:At-risk-of-poverty_rate

Nacionalna klasifikacija prostornih jedinica za statistiku (NKPJS), (NN 35/07)

Svjetska banka (2016), Hrvatska Ocjena siromaštva za mala područja temeljem potrošnje (Karta siromaštva)

https://razvoj.gov.hr/UserDocsImages/3585

Strukturni fondovi (2018), Projekt Slavonija, Baranja i Srijem

https://strukturnifondovi.hr/projekt-slavonija-baranja-srijem/

http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-4cdb9c32-492c-47af-8eb3-f11dd47a307a

Biljana Lončarić, PhD.
Tourist Board Slavonski Brod
Trg pobjede 28/1, 35.000 Slavonski Brod, Hrvatska
Tel. 00 385 35 447 721 Fax: 00 385 35 406 721
E-mail address: info@tzgsb.hr

PARTICIPATION OF THE TOURISM CLUSTER “SLAVONSKA KOŠARICA" IN INTERNATIONAL PROJECTS – YES OR NO?

SUDJELOVANJE TURISTIČKOG KLASTERA „SLAVONSKA KOŠARICA“ U MEĐUNARODNIM PROJEKTIMA – DA ILI NE?

ABSTRACT

The Tourism Cluster "Slavonska košarica“, founded by the City of Slavonski Brod in 2011, can be seen as an example of good practice in the networking segment. Already in 2012, the cluster became regional and today it is networking 134 food, beverage and handicraft manufacturers; providers of tourist services, as well as public institutions from the whole Slavonia region. After initial activities in the promotion segment, in 2016 the cluster started marketing activities in other areas, as well, such as product creation; distribution; pricing policies, and internal processes. Anyway, the results of the research conducted in early 2016 showed that promotion still should be one of the marketing priorities; and the results of the research conducted in early 2017 showed that cluster members within the promotional mix gave advantage to personal contacts, off-line and online advertising. During January 2018, a new primary research was done to determine the cluster members' relationship towards cluster participation in international projects. In this sense, in the paper will be analyzed and synthesised the results of the research to find out the extent to which cluster members have participated in international projects so far; if they have, was it as the lead or the project partner; whether the projects in which they were involved have resulted in some benefits; whether they support participation of the cluster in the international project "Interreg IPA Crossborder Cooperative Program Croatia-Serbia 2014-2020" and what benefit they expect from it and what is their attitude towards networking cluster with other clusters in the country and abroad, generally speaking. The aim of the paper will be to obtain results that will improve the cluster activities in the segment of connecting with other clusters.

Keywords: *tourism cluster; networking; international projects; marketing activities.*

SAŽETAK

Turistički klaster „Slavonska košarica“ osnovan od strane grada Slavonskog Broda 2011. može se izdvojiti kao primjer dobre prakse u segmentu umrežavanja. Već 2012. klaster je postao regionalan te danas umrežava 134 proizvođača hrane, pića i rukotvorina; pružatelja turističkih usluga, kao i javne institucije s područja cijele Slavonije. Nakon inicijalnog djelovanja u segmentu promocijskih aktivnosti, klaster se tijekom 2016. počeo baviti marketinškim aktivnostima i u drugim područjima poput stvaranja proizvoda; distribucije (prodaje), politike cijena i internih procesa, s tim da su rezultati istraživanja provedenog početkom 2016. pokazali da promocija i dalje treba biti jedan od prioriteta marketinškog djelovanja klastera, a rezultati istraživanja, provedenog početkom 2017., da članovi klastera unutar promocijskog miksa prednost daju osobnim kontaktima te off line i on line oglašavanju. Tijekom siječnja 2018. provedeno je novo primarno istraživanje kako bi se utvrdio odnos članova klastera prema sudjelovanju klastera u međunarodnim projektima. Nastavno

na isto, u radu će se analizirati i sintetizirati rezultati istraživanja radi spoznaje o tome u kojoj su mjeri do sada članovi klastera sudjelovali u međunarodnm projektima; ako jesu, je li to bilo u svojstvu nositelja ili partnera; jesu li projekti u kojima su sudjelovali rezultirali nekom koristi; podržavaju li sudjelovanje klastera u međunarodnom projektu „Interrreg IPA Crossborder Cooperaton Programme Croatia-Serbia 2014-2020" i kakvu korist očekuju od toga te koji je njihov stav prema umrežavanju klastera s drugim klasterima u tuzemstvu i inozemstvu, općenito gledavši. Cilj rada bit će dobiti rezultate na osnovu kojih će se unaprijediti poslovanje klastera u segmentu povezivanja s drugim klasterima.

Ključne riječi: *turistički klaster; povezivanje; međunarodni projekti; marketinške aktivnosti.*

1. Introduction

Today, entrepreneurs, a part of local authorities and other interest groups such as non-profit organizations are expected to be more involved in the processes of destination management and development (Coles, T., Dinan, C., Hutchison, F., 2014, 247), where it is evident that there are different forms of partnership that can encompass the gathering of different stakeholders (Rogerson, CM, 2016, 419) in formal and informal forms of voluntary cooperation (WTO, 2015, 12).
When it comes to clusters as a formal form of networking, it should be emphasized that, apart from the economic, the social dimension can be of importance as well (Loncaric, B., Petrović, T., 2015, 98).The state can encourage the development of clusters (Iordache, C., Ciochina, I., Asandei, M., 2010, 102), because of cluster significance coming from multiple links of participants, which may be less or more visible (Dragičević, M., Obadić, A., 2013, 27).

2. Regional networking

Regional clusters can be characterized as production networks of strongly interconnected economic entities (including specialized suppliers), knowledge-producing agencies (universities, research institutes, technical support institutions), „connecting" institutions (brokers, consultants) and customers, interconnected in the value chain of added production (Asheim, B., Isaksen, A., 2001).
Regional networking has become a practice in international frameworks, as well (Lončarić, B., 2012, 324), using the concept of regional innovation system (RIS) (Cooke, P., 1992, 365), within which activities of participants of networking create, carry into, modify and extend new technologies (Seo, J.H., 2006, 4). Thereby, a geographic cluster can include entities that can profit from joint marketing, branding and management (MacGregor, RC, 2007, 20).

3. Regional tourist networking

Cooperation and linkage in the tourist sector of less developed tourism areas is a necessity for survival on the tourist market (Christensen, P., Mclntyre, N., Pikholz, H., 2002, 19-21), especially when it comes to the regional level (Lončarić, B., 2016, 934). At the level of tourist destinations are developing more and more complex tourist products that have to be managed what implies the intensive cooperation of all stakeholders involved in the creation of tourism products (Lončarić, B., 2017, 145).
The networking theory in the tourism sector dates fifteen years backwards (Morrison, AM et al., 2004, 198), with cross-linked small and medium-sized businesses subjects that can compete globally, and cooperate locally, and with evident benefits for business (Novelli et al., 2006, 1143).

4. Tourist networking in the region of Slavonia

The most common initiators of the cooperation of the stakeholders in tourism in Slavonia are the tourist boards which, from the county level, "informally" cooperate within the so-called " cluster "Slavonia", ie from the level of individual cities and municipalities within the so-called "PPS destinations“, in accordance with the program of the Ministry of Tourism of the Republic of Croatia started in 2014 under the name „365 Croatia“ (Lončarić, 2016, 167) and which has not yet fully come into practice (Lončarić, B., 2017, 854). At present there are five county tourist boards in the region of Slavonia and five PPS destinations, two of which – PPS destination "My beautiful Slavonia near Sava" and PPS destination "Aurea Pannonia" connect subjects from different counties (Croatian National Tourist Board, 2018), with the primary goal of better resource using during pre- and postseason (Lončarić, B., Ružić, D., 2015, 282), but also encouraging of the joint activity of networked entities (Lončarić, 2017, 854).
Considering that Slavonia is the most undeveloped tourist region in Croatia (Lončarić., B., 2012, 33), it would be advisable to carry out networking for this region, regardless of the administrative structure, at the regional level.

5. Tourism Cluster "Slavonska košarica“

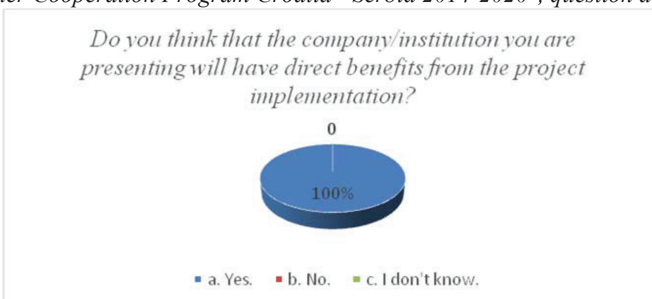
The basic brake for intensifying linkage between tourist entities is primarily the lack of resources for activities, which should be referred to "from the top", or from state sources. Croatian practice shows the same, so the activities of the Croatian clusters are largely funded from the membership fees and founder donations and depend primarily on whether cluster members are aware of the benefits brought by networking (Lončarić, 2017, 855).
In any case, as far as the region of Slavonia is concerned, as an example of good practice in the segment of formal networking we can set aside the tourism cluster "Slavonska košarica“ established by the City of Slavonski Brod in 2011 and which today links 134 members. Basic cluster activities are defined by the annual work programs adopted by the Assembly, and, according to the program guidelines, cluster activities combine different marketing mix elements (Senečić, J. 1979,40), which strive to achieve marketing goals (Meler, M., 1999, 28). Thus, in 2018, in accordance with the Cluster Program for 2018, (Tourism Cluster, 2018, 4-6), cluster activities will take place in different segments, including for the first time paricipating in an international project, whose co-financing from the EU funds has the highest percentage (54.3%) in the cluster revenue sources for 2018 (Tourism Cluster, 2018, 7).
This is a project called "Explore Cro-Srb; Extraordinary Pleasure of our Region - Common gastro, eco and recreation routes of Croatia and Serbia ", totaling EUR 368,110.98, with a grant of EUR 312,894.32; lasting for the period from July 2017 to July 2019, with the main objective of strengthening, expanding and integrating cross-border tourist offers and improving the management of cultural and natural heritage. Besides the Regional Development Agency "Panonreg" from Subotica and the Fund of the Tourism Cluster of the microregion „Subotica – Palić“, the partner of the Development Agency of the City of Slavonski Brod in this project, as a project leader, is also the tourism cluster "Slavonska košarica“, and the basic activities that are being carried out are: creating of the cluster e-platforms as well as cross-border tourism products from the field of gastro, eco and recreational tourism; issuing tourist maps and catalogs; maintening educational workshops, roundtables and conferences; linking tourism stakeholders; recording of promotional tourist film; organizing study trips as well as appearances at fairs, and others (Development Agency of the City of Slavonski Brod, 2017).

6. The results of the primary research conducted in January 2018

In January 2018, a primary research was conducted in the form of a questionnaire to examine cluster members' views on cluster participation in international projects, with 78 members

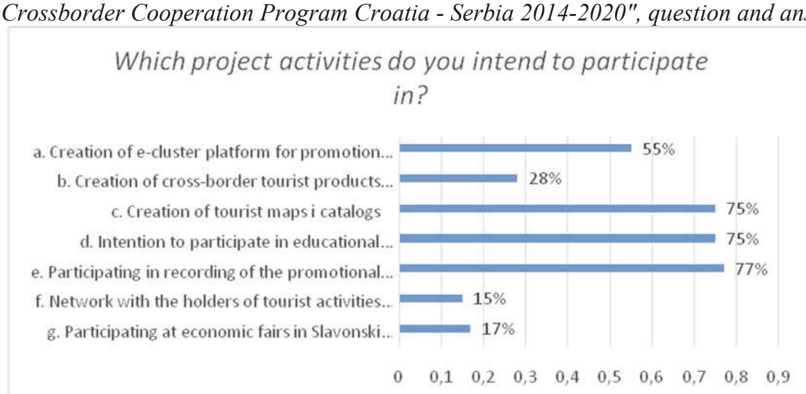
participated in the survey, which makes up 58% of the total membership. The results of the research showed, among other things, that 12% of the respondents participated in some of the international projects whose implementation resulted in withdrawal of grants from EU funds, of which one half as the leaders and the other as the partners.
When it comes to the concrete project involving the cluster, whose implementation is under way, 43% of respondents stated that they believed that the subjects they represented would have direct benefits from the implementation of the project (Figure 1). When talking about activities during the project implementation, the results of the research are shown in the Figure 2, while the date in the Figure 3 show that the majority of respondents, 84% of them, expressed the view that they supported the networking of the cluster "Slavonska košarica“ with other clusters in the country and abroad on the basis of partnerships and common interests.

Figure 1 *Benefits for the cluster members from the implementation of the project "Interreg IPA Crossborder Cooperation Program Croatia - Serbia 2014-2020", question and answers*



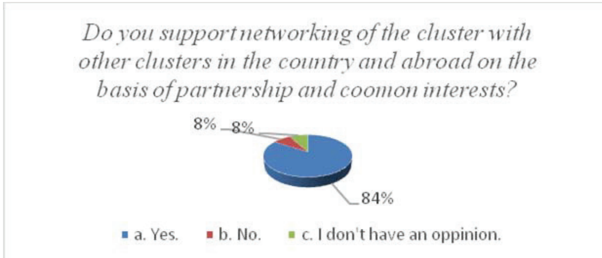
Source: Self-conducted research, January, 2018

Figure 2 *Participation of the cluster members in activities carried out through the project "Interreg IPA Crossborder Cooperation Program Croatia - Serbia 2014-2020", question and answers*



Source: Self-conducted research, January, 2018

Figure 3 *Networking of the cluster with other clusters in the country and abroad, question and answers*



Source: Self-conducted research, January, 2018

7. Conclusion

The clusters are one of the models of business cooperation that can be formal or informal (Sudarić, T., Zmaić, K., Tolić, S., 2017, 565) and in the function of maintaining business stability (Horvat, Đ., Kovačević, V., 2004). The marketing program of the cluster, as well as all other business entities, in its essence represents the establishment of an optimal combination of marketing mix elements for the purpose of achieving set marketing goals (Meler, M., Maglica, S., 1986, 147), or a combination of control marketing variables which are used by the company to achieve the required level of sales on the target market (Kotler, Ph., Bowen, J., Makens, J., 1998, 82), with the possibility of including other elements whose choice most often depends on the particulars of the activity and individual products and services (Ružić, D., 2007, 144).

The results of the primary research conducted in January 2018 show that, when it comes to international projects involving the cluster, the cluster members express readiness for marketing activities in different areas, meaning, they prefer to combine different marketing mix elements. However, what is evident is their small interest in participating in those activities whose practicing automatically means increasing the share of those costs in the structure of the total costs which the cluster member has to bear alone. Here, above all, it concerns the costs arising from the stay outside the places of residence of cluster memebers (such as participating at fairs out of the places of residence or travelling to the cross-border areas for the purpose of networking with the providers of tourist activities or creating integral tourism products), or from activities in the places of residence of the cluster members which, however, lead to the creation of dependent costs arising from the activities (as in the case of participation at fairs held in the places of residence of the cluster members in which case the costs of engagement of staff at the exhibition places could appear).

REFERENCES

Asheim, B., Isaksen, A. (2001): ***Regional Innovation Systems: the Integration of Local Sticky and Global Ubiquitous Knowledge***, Journal of Technology Transfer

Christensen, P., McIntyre, N., Pikholz, I. (2002): ***Bridging Community and Economic Development – A Strategy for Using Industry Clusters to Link Neighborhoods to the Regional Economy***, Shorebank Enterprise Group

Coles, T., Dinan, C., Hutchison, F. (2014): ***Tourism and the public sector in England since 2010: A disorderly transition*"**, Current Issues in Tourism, Vol. 17, No. 3, pp. 247 - 279

Cooke, P.(1992): ***Regional Innovation systems: competitive regulation in the new Europe,*** Geoforum

Dragičević, M., Obadić, A. (2013): ***Klasteri i politike razvoja klastera,*** Ekonomski fakultet Sveučilišta u Zagrebu, Zagreb

Iordache, C., Ciochina, I., Asandei, M. (2010): ***Clusters – Tourism Activity IncreaseCompetitiveness Support,*** Theoretical and Applied Economics**,** Vol. 17, No. 5, pp. 99 – 112

Horvat, Đ., Kovačević, V. (2004): ***Clusteri - put do konkurentnosti,*** CeraProm, Zagreb

Kotler, Ph., Bowen, J., Makens, J. (1998): ***Marketing for hospitality and tourism, second edition,*** Pretice Hall, Upper Saddle River, NJ

Lončarić, B. (2012): ***Marketing u turizmu Slavonije i Baranje,*** *doktorska disertacija,* Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek

Loncaric, B.(2016): ***Marketing program of the cluster „Slavonska košarica", new challenges,*** in**:** 5th International Scientific Symposium – Economy of eastern Croatia – vision and growth, University of J.J. Strossmayer in Osijek, Faculty of economics, Osijek, June, 2-4, 2016, pp. 931-942

Loncaric, B.(2016): ***Program „Croatia 365" in a function of better market positioning of the tourist destinations during the pre- and post-season, 5***th International M-Sphere Conference for Multidisciplinarity in Business and Science, M-Sphere, Dubrovnik, October, 27-29, 2016, pp. 167-175

Lončarić, B. (2017): ***Promotion – a key element of marketing mix for better position of the tourism cluster „Slavonska košarica" on the tourism markets,*** in**:** 6th International Scientific Symposium – Economy of eastern Croatia – vision and growth, University of J.J. Strossmayer in Osijek, Faculty of economics, Osijek, May, 25-27, 2017, pp. 852-860

Lončarić, B., Petrović, T. (2015): ***Cluster „Slavonia basket" as the backbone of tourism development int he region of Slavonia*, in:** 4th International Scientific Symposium – Economy of eastern Croatia – vision and growth, University of J.J. Strossmayer in Osijek, Faculty of economics, Osijek, May, 21-23, 2015, pp. 97-111

Loncaric, B., Ružić, D. (2015): ***Program „Croatia 365" in a function of stronger market positioning of the continental part of Croatia on foreign tourism markets***, in: 4th International M-Sphere Conference for Multidisciplinarity in Business and Science, M-Sphere, Dubrovnik, October, 22-24, 2015, pp. 282-291

MacGregor, R.C. (2007): ***Small Business Clustering Technologies: Applications in Marketing, Management and Economics,*** Idea Group Publishing, London

Meler, M. (1999): ***Marketing,*** Ekonomski fakultet u Osijeku, Osijek

Meler, M., Maglica, S. (1986): ***Marketing u turizmu – poslovno gostoprimstvo***, RO „Zagreb", Samobor

Morrison, A.M. et al.(2004): ***International Tourism Networks***, International Journal of Contemporary Hospitality Management, Vol. 16., No. 3., pp. 197-202

Novelli, M. et al. (2006): ***Networks, clusters and innovations in tourism: Networks,*** **clusters*and innovations in tourism: A UK experience***, Tourism Management, Vol. 27, No. 6, pp. 1141 - 1152

Razvojna agencija grada Slavonskog Broda (2017): ***Ugovor o sufinanciranju provedbe projekta „Explore Cro-Srb, Extraordinary Pleasure of our Region – Common gastro, eco and recreation routes of Croatia and Serbia“ od strane Agencije za regionalni razvoj RH,*** Zagreb

Rogerson, C. M. (2016): ***Javno-privatno partnerstvo za razvoj infrastrukture: primjer Kolijevke čovječanstva, Južnoafrička Republika,*** Tourism, Vol. 64, No. 4, pp. 419 – 430

Ružić, D. (2007): ***Marketing u turističkom ugostiteljstvu***, Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek

Senečić, J. (1979.): ***Marketing planiranje i strategija u OUR-ima***, Informator, Zagreb

Seo, J.H.(2006): ***Regional Innovation System and Industrial Cluster: Its Concept, Policy Issues and Implementation Strategies,*** National Workshop on Sub-national Innovation Systems and Technology Capacity Building Policies to Enhance Competitiveness of SME s, Beijing, China

Sudarić, T., Zmaić, K., Tolić, S.(2017): ***The role and influence of cooperatives on eastern Croatian economy,*** in**:** 65th International Scientific Symposium – Economy of eastern Croatia – vision and growth, University of J.J. Strossmayer in Osijek, Faculty of economics, Osijek, May, 25-27, 2017, pp. 559-568

Turistički klaster „Slavonska košarica“ (2018): ***Program rada Turističkog klastera „Slavonska košarica“ za 2018., s financijskim planom,*** Slavonski Brod

World Tourism Organization (2015): ***Affiliate Members Gobal Reports, Volume eleven – Public-Private Parterships: Tourism Development,*** Madrid

http://www.htz.hr/hr-HR/projekti-i-potpore/pps, Hrvatska turistička zajednica (2018), ožujak, 2018

Suzana Marković, Ph.D., Full Professor
University of Rijeka, Faculty of Tourism and Hospitality Management Opatija
Department of Quantitative Economics
Primorska 42, p.p. 97, 51410 Opatija, Croatia
Phone: +385 99 245 5901
E-mail address: suzanam@fthm.hr

Jasna Horvat, PhD, Full professor
University of J. J. Strossmayer in Osijek, Faculty of Economics
Department of Quantitative Economics
Trg Ljudevita Gaja 7, 31000 Osijek
+395912244025
E-mail address: jasna@efos.hr

Srđan Mitrović, doctoral student
University of Rijeka, Faculty of Tourism and Hospitality Management Opatija
Primorska 42, p.p. 97, 51410 Opatija, Croatia
Phone: +385 91 3322 101
E-mail address: mitrovic.srdan@gmail.com

MEASURING WINE AND FOOD FESTIVAL VISITOR'S PERSONALITY TRAITS AND EXPERIENCES

ISTRAŽIVANJE OSOBINA I ISKUSTVA POSJETITELJA FESTIVALA HRANE I PIĆA

ABSTRACT

Wine festivals have become vital parts of the wine tourism experience and are slowly morphing into lifestyle experience events that bring exposure to wineries and wine destinations. The purpose of the research was to measure visitors wine and food involvement and neophobia, and to compare these traits with regard to visitor demographics. Additionally, research explored the relationship of food related personality traits, experience quality dimension and outcomes such as satisfaction and loyalty. Data was collected using an on-site questionnaire that measuredselected constructs during the VinoCOM festival on 24th and 25th November 2017.Descriptive and bivariate statistics were used to analyze collected data. The research findings revealed thatvisitors havehigh levels of involvement and low levels of neophobia with significant differences found among return visitors, first-time visitors and visitors with high and low-income level.

Key words: *wine tourism, wine festival, festival experience quality, visitor personality traits, quantitative analysis.*

SAŽETAK

Vinski festivali postali su ključan doživljaj u kontekstu vinskog turizma te predstavljaju izvrsnu priliku za promociju pojedinih vinarija i čitavih vinskih regija. Svrha ovoga istraživanjaje izmjeriti razinu uključenosti i neofobije posjetitelja, vezane uz vino i hranu te ih usporediti s njihovim demografskim karakteristikama. Osim toga, cilj ovog istraživanja je utvrditi moguću povezanost osobina ličnosti posjetitelja s konceptima kvalitete doživljaja festivala, zadovoljstva i vjernosti *festivalu. Podaci su prikupljeni pomoću upitnika na festivalu vina i hrane VinoCOM koji se održao u Zagrebu 24.-25. studenog 2017. Metodama deskriptivne i bivarijatne statističke analize analizirani su prikupljeni podaci. Rezultati istraživanja ukazuju na visok stupanj uključenosti i nizak stupanj neofobije od strane posjetitelja festivala te na značajne razlike u navedenim osobinama s obzirom na to jesu li posjetitelji prvi put na festivalu ili su ponovljeni posjetitelji te pripadaju li posjetitelji višem ili nižem prihodovnom rangu.*

Ključne riječi: *vinski turizam, festival vina,kvalitete doživljaja festivala, osobine ličnosti posjetitelja, kvantitativna analiza.*

1. Introduction

Since the mid-1990s wine tourism has become an important form of tourism with an evident growth in tourists interested in wine (Getz and Brown, 2006). While there are many definitions of wine tourism, the one proposed byGeißler (2007), "Wine tourism embraces and includes a wide range of experiences built around tourist visitation to wineries, wine regions or wine-related events and shows - including wine tasting, wine and food, the enjoyment of the regional environs, day trips or longer-term recreation, and the experience of a range of cultural and lifestyle activities", could be viewed as a constitutive definition. Just as any other consumers in today's fast-growing world of the experience economy, wine consumers are in search of products and services that have both utilitarian and hedonic components (Sandstorm et al., 2009). Berry et al. (2002) have argued that businesses should strive to provide meaningful experience to their customers to add value to their core product or service. According to (Charters and Ali-Knight 2002; Galloway et al., 2008), the best way to provide wine tourism experiences is through hosting festivals and events. Wine festivals have been defined as special occasions that "visitors actively engage in for the satisfaction of their interest in wine and/or for the entertainment made available by other leisure activities" (Yuan et al., 2005). Furthermore, festivals provide opportunities to raise awareness of both wineries and destinations (Taylor and Shanka, 2007) as well as to increase revenue flows with direct sales at the festival and create relationships with consumers that can lead to long-term sales and generate brand loyalty (Treloar and Hall, 2008).

Cohen and Avieli (2004) have suggested that neophilic tendencies and high food-involvement are displayed by tourists who take gastronomic tours and who tend to be more inclined towards new food experiences due to their wine- and food-related personality traits. Events and festivals, based around wine and food as a form of wine or food tourism, usually play an important role in introducing a tourist to new flavors and different traditions during their visit to a destination (Getz, 2000; Hjalager and Corigliano, 2000; Yuan et al., 2005). Food and wine festivals also present visitors with an authentic lifestyle experience in a pleasant environment (Getz, 2000).

Kim et al. (2010) claim that research from the perspective of food-related personality traits is still relatively young, and that the integration of the two bodies of hospitality and tourism events and food choice research is almost never seen. Therefore, this research aims to measure the food-related personality traits of visitors, namely wine and food involvement and neophobia, and compare them with regard to visitor demographic characteristics as well as explore the relationship between food-related personality traits and perceptions of experience quality and experience outcomes of the festival. This paper should give us better insight into the specific food-related personality traits of wine and food festival visitors and clarify to what extent, if any, they influence visitors' perceptions of experience quality and their satisfaction and loyalty as experience outcomes.

The paper is organized as follows. First, a literature review is provided regarding the main research constructs. Next, research methodology is explained and, lastly, research results and conclusions are presented.

2. Conceptual background

2.1. Consumer experience

Recently "customer experience" has become a key concept in service research and management in fields such as services marketing, innovation and retailing (Jakkola et al., 2015). The "experience economy" concept suggests that experience can be seen as a form of economic offering creating a competitive advantage that is hard to imitate or replace. Researchers have recently found that consumer experience has to be viewed as a multidimensional evaluation in which multiple factors contribute to form a holistic view (e.g. Schmitt, 1999; Gentile et al., 2007; Kim et al., 2011), but dimensions of the consumer experience concept can be hard to separate, challenging to orchestrate and beyond the control of the provider of goods or services. Consequently, it has been underlined by many researchers that the creation of "extraordinary" customer experiences is necessary as a part of the strategy to bring value to the consumer and foster satisfaction, loyalty and positive word of mouth. (e.g. Pine and Gilmore, 1998; Berry et al., 2002; Shaw and Ivens, 2005; Backstrom and Johansson, 2006; Naylor et al., 2008; Bolton et al., 2014). Satisfaction is considered a judgment from the consumer whether the selected alternative has met or exceeded expectations (Oliver, 1997), while loyalty is defined as repeat purchasing behavior and can manifest in repurchase intentions, spreading positive word of mouth or recommendations (Lee et al., 2006). Research has shown that to create loyalty it is necessary to achieve consumer satisfaction as there is a positive correlation between consumers' satisfaction and future intentions (Oliver and Burke, 1999).

2.2. Wine tourism experience

Wine tourism experiences can be offered in many ways such as visiting vineyards, wineries and wine festivals (Bruwer 2003), which can, according to Axelsen and Swan (2010), provide a wide range of experiences that differ from day to day living and could be viewed as a possible lifestyle tourism experience (Gross and Brown, 2006). According to Axelsen and Swan (2010) and Taylor and Shanka (2007), wine festivals are diverse in their offering of "extraordinary" experiences as they offer interactivity, leisure, social and cultural experiences; however, the personality traits of visitors have to be taken into account as multiple researchers have found that certain personality traits such as food neophobia and wine involvement can influence consumer behavior and attitude (Bell and Marshall, 2003; Sparks, 2007) and so, by extension, could also affect the consumer experience and related outcomes.

2.3. Wine and food related personality traits

Food neophobia has been defined as the extent to which consumers are reluctant to try novel foods, recipes or cuisines (Pliner and Hobden, 1992). Various studies have concluded that an inclination towards new food experiences stems from low levels of food neophobia as those types of customers, more often than not, have a significantly different taste physiology and are able to experience the new tastes with more enjoyment. Closely connected to food neophobia is food involvement, defined as the level of importance of food in a person's life, measuring how much certain people enjoy talking about food, thinking about food or partaking in food-related activities (Bell and Marshall, 2003).

Food-related personality traits research in the context of wine and food festivals is at a relative early stage of integration (Kim et al., 2010) as only a few studies have so far combined the concepts of food and wine-related personality traits and experiences, experience outcomes, behaviors and attitudes towards the festival. Cohen and Avieli (2004) researched the attraction of food and beverages in tourism and consider food neophobic tendencies as an outstanding element because eating involves actual bodily involvement. Getz and Brown (2006) concluded that consumers' involvement with wine is likely to be a determinant of wine-related travel. Gross and

Brown (2006) found that a dimension of food and wine involvement was an indicator of lifestyle tourism experiences. Sparks (2007) found that directly and indirectly food and wine involvement has an effect on intentions to participate in a wine-based holiday. Kim et al. (2009) identified three important elements influencing the consumption of local food in a destination: physiological factors (food neophilia, neophobia), motivational factors (exciting experience, escape from routine) and demographic factors. They suggested that engagement with local food or wine in the destination may be driven by food-related personality traits such as food neophilia or neophobia. Kim et al. (2010) found that food neophobia and food involvement can be added as one of the considerable factors influencing satisfaction and loyalty in hospitality and tourism research.

3. Methodology

The aim of the research was to measurethe wine and food personality traits of festival visitors, specifically involvement and neophobia, and explore their relationship with the experience quality dimensions of the festival (environment, education, service providers, functional benefits, entertainment) and experience outcomes (satisfaction, loyalty). Additionally, the research aimed to compare wine and food involvement and neophobia with regard to specific demographic characteristics of the visitors (gender, income level, visitor status, employment, residency).

The research instrument was divided into five parts, with four parts focusing on the main research constructs of wine and food involvement, wine and food neophobia, experience quality, experience outcomes and the fifth part referring to the demographic characteristics of the visitors. For measuring each construct, with the exception of entertainment experience, multi-item scales were adapted, which were drawn from previous literature and adapted to the wine and food festival context of the research.

An adapted Food Neophobia Scale (Pilner and Hobden, 1992; Ritchey et al., 2003) was used to measure wine and food neophobia, while wine and food involvement was measured with an adapted Food Involvement Scale (Bell and Marshall, 2003). Experience outcomes (satisfaction, loyalty) were measured with items adapted from Kim et al. (2010). Items measuring environment experience where adapted from the work of Chung and Horng (2010) and the Consumer Experience Index model (Kim et al. 2011), which was also used for items in the functional benefits experience construct. Service providers' experience items were drawn from the work of Chung and Horng (2010) and the Experience Quality scale (Klaus and Maklan, 2012). Entertainment and education experience items where adapted from Chung and Horng (2010).

All items regarding wine and food involvement and neophobia, experience quality and experience outcomes were measured on a 7-point Likert scale, ranging from "strongly disagree" to "strongly agree". It is important to note that the food neophobia construct was reverse scored, so high scores point to a low level of wine and food neophobia.

The last part of the research instrument was designed to collect demographic characteristics of the festival visitors which included: gender, age, client status, income, education, residency, marital status, employment and accommodation.

Collection of data on wine and food festival visitors was done using an on-site survey during VinoCOM, an international wine and food festival, that was held at the Esplanade hotel in Zagreb on the 24th and 25th of November 2017. The questionnaires were randomly distributed to visitors in different halls of the festival, with each potential respondent being asked whether they wanted to participate in the survey. The questionnaires were inspected for missing data on site and collected after completion.

Data were analyzed using the SPSS 23 statistical program on Windows 10. Descriptive and bivariate statistical analyses were used to examine and describe the data. Specifically, independent sample t-tests were used to determine the significance of difference in mean scores of each construct regarding the selected demographic characteristics of the festival visitors, while Pearson's correlation coefficient was used to determine the relationship between wine and food neophobia, involvement, experience quality constructs and outcomes.

4. Results

The sample consisted of 304 respondents, fairly evenly divided between residents of the area (46.7%) and non-residents (53.3%) and between female (54.8%) and male (45.2%) visitors. Most of the respondents were domestic (84.2%). About half of the visitors (56.9%) were single, while most visitors were currently employed (77.7%), belonged to the average or higher income bracket (84.8%), and their education level was mostly at the college level or above (66.5%). There were more return visitors (64.8%) than first-time visitors (36.2%). The approximate average age of the visitors was 33.

Visitors of the wine and food festival have a relatively high level of involvement with overall mean score 5.37 and low level of neophobia where overall mean score was 5.97 (items for the neophobia were reverse coded). Among the neophobia construct items, the highest average score was given to the item “At food and wine festivals I’ll try new foods and wines” (6.51) while the lowest mean score was given to “I seek out unconventional wines” (4.74). In the wine and food involvement construct, the highest mean score was given to the item “When I travel, one of the things I anticipate most is eating the food there” (6.48)while the item “Compared with other daily decisions my food choices are not very important” (4.64)was given the lowest mean score. Regarding the income levels of the visitors, significant differences were found in mean scores for the involvement construct as visitors with higher than average income level had a significantly higher mean score ($t=2.919$, $df=302$, $p<0.05$). The neophobia construct did not have a significantly higher mean score as only one item showed a significant difference (“If I don’t know what the food is, I won’t eat it”) regarding visitor’s income level. Additionally, both constructs showed significant differences in mean scores regarding previous visits to the festival with repeat visitors having significantly higher involvement ($t=-2.671$, $df=302$, $p<0.05$) and neophobia ($t=-2.640$, $df=302$, $p<0.05$) scores. Two items for each construct showed significant differences. For the neophobia construct they were“I seek out unconventional wines” and “If I don’t know what the food is I won’t try it”, while for the involvement construct they were “When I travel I try to visit as many wineries as possible” and “I don’t think a lot about the wine I’m going to pair with food”.

Even though certain items within the constructs did show significantly different mean scores, no significant differences were found in the mean scores of wine and food involvement and neophobia constructs of male and female, domestic and international, as well as employed and unemployed visitors of the festival. Items that showed significantly different mean scores for male and female visitors were “When I travel I try to visit as many wineries as possible” ($t=3.428$, $df=301$, $p<0.05$), with male visitors having the higher mean score, and “When I eat at the festival I don’t think about how the food tastes” ($t=-2.021$, $df=273.032$, $p<0.05$), with female visitors having the higher mean score. Both items were from the wine and food involvement construct. International visitors had a significantly higher mean score for the items “If I don’t know what the food is, I won’t try it ($t=-2.631$, $df=107.166$, $p<0.05$) and “I seek out unconventional wines” ($t=-2.586$, $df=77.591$, $p<0.05$) from the neophobia construct, and higher mean scores in the items “When I travel I try to visit as many wineries as possible” ($t=-4.371$, $df=88.089$, $p<0.05$) and “I don’t think a lot about the wine I am going to pair with food” ($t=-2.066$, $df=302$, $p<0.05$) from the neophobia construct. Unemployed festival visitors had only one significantly higher score in an item from the involvement construct “At food and wine festivals I will try new foods and wines” ($t=-2.402$, df=293,352, $p<0.05$).

Significant correlations were found between wine and food involvement and neophobia constructs and experience quality constructs and experience outcomes.The neophobia construct displays a stronger relationship and significant correlations with all observed experience quality dimensions, while the involvement construct seems not to be correlated with environment and education constructs. Additionally, wine and food neophobia and involvement are correlated to the observed experience quality constructs and outcomes in opposite directions, as involvement is positively correlated and neophobia negatively correlated to the experience constructs due to reversed scoring of the construct items. Hence, a higher degree of wine and food involvement leads to higher perception of experience quality with regard to service providers($r=0.197, n=304, p<0.01$), entertainment ($r=0.254, n=304, p<0.01$), and functional benefits ($r=0.195, n=304, p<0.01$), as well as satisfaction ($r=0.232$, $n=304$, $p<0.01$), and loyalty ($r=0.263$, $n=304$, $p<0.01$) to the festival, while a lower degree of wine and food neophobia leads to higher perceptions of experience quality with regard to environment, ($r=0.309$, $n=304, p<0.01$), service providers ($r=0.339, n=304, p<0.01$), education ($r=0.236$, $n=304, p<0.01$),entertainment($r=0.357, n=304, p<0.01$), functional benefits ($r=0.367, n=304, p<0.01$),as well as loyalty ($r=0.4, n=304, p<0.01$), and satisfaction ($r=0.413$, $n=304, p<0.01$) with the festival.

5. Conclusion

The present research aimed to measure visitors' food-related personality traits, namely involvement and neophobia, compare them with regard to the specific demographic characteristics of the visitors, and determine possible relationships between the observed personality traits, perceived experience quality and experience outcomes.

Certain demographics such as gender, residency or employment did not show to have a significant effect on levels of food and wine involvement and neophobia. Significant differences, however, were found for the involvement construct with regard to visitors with higher income, leading to the conclusion that income level will determine a person's involvement in all things wine and food but not their inclination towards new food experiences as no difference was found for the neophobia construct. Additionally, significant differences were found for both construct levels with regard to return visitors compared to first-time visitors, which points to a connection between food-related personality traits and loyalty that needs to be explored further.

The results indicate that experiences and outcomes such as satisfaction and loyalty of visitors attending food-related festivals are correlated with their food-related personality traits of food neophobia and food involvement which stands in contrast with findings of Kim et al. (2010), who found no relationship between visitor involvement and satisfaction. The findings of other relationships are consistent with previous studies (Bell and Marshall, 2003; Brown et al., 2006; Cohen and Avieli, 2004), which have shown that personality traits relate to food choice and predict the likelihood of future behavior.

Marketers should take wine- and food-related personality traits into consideration when organizing wine and food events because visitors with low neophilic tendencies and high involvement represent loyal customers who will generate more revenue and contribute to reducing marketing costs. Also, an interesting application stems from the fact that visitors with lower income do not shy away from new food experiences but, rather, are not that involved for mostly financial reasons. Accordingly, certain marketing strategies and products could be developed to convert the market of lower income visitors, as not all wine and food currently on the market is in the premium category.

This study has several limitations. It examines only a single event using a sample of mostly domestic visitors and, hence, has limited ability to generalize the results. Future research could look at the longitudinal data from the festival or compare results across countries to account for possible cultural differences. In addition, the present research takes into account only correlations between the constructs which are relatively small, so it would be necessary to test the relationship in a higher-order theoretical model to define paths of influence among the constructs and also explore experience constructs as mediating factors between food-related personality traits and experience outcomes. Additional motivations and personality traits could be explored as possible factors that influence experience quality and experience outcomes.

Acknowledgement - This paper is the result of the scientific project "*New Approaches to Measuring Visitor Experience in the Tourist Destination*", which is supported by the University of Rijeka (project ZP UNIRI 3/17).

REFERENCES

Axelsen, M., & Swan, T. (2010), Designing festival experiences to influence visitors' perceptions: The case of a wine and food festival. *Journal of Travel Research,* 49(4), 1–15.

Backstrom, K., Johansson, U., (2006), Creating and consuming experiences in retail store environments: comparing retailer and consumer perspectives. *Journal of Retailing and Consumer services* 13(6), 417-430.

Bell, R. & Marshall, D. (2003), The construct of food involvement in behavioral research: Scale development and validation. *Appetite* 40(3), 235-44.

Berry, L., Carbone, P., Haeckel, H., (2002), Managing the total customer experience. *MIT Sloan Management Review* 43(3), 85–89.

Bolton, R., Gustafsson, A., Mc-Coll Kennedy, J., Sirianni, N., Tse, D., (2014), Small details that make big differences: a radical approach to consumption experience as a firm's differentiating strategy. *Journal of Service Management* 25(2), 253–274.

Bruwer, J. (2003), South African wine routes: Some perspective on the wine tourism industry's structural dimensions and wine tourism product. *Tourism Management*, 24(4), 423–435.

Chang, T., Horng, S., (2010), Conceptualizing and measuring experience quality: the customer's perspective. *The Service Industries Journal* 30(14), 2401–2419.

Cohen, E., Avieli, N., (2004), Food in tourism: attraction and impediment. *Annals of Tourism Research* 31(4), 755–778.

Galloway, G., Mitchell, R., Getz, D., Crouch, G., & Ong, B. (2008), Sensation seeking and the prediction of attitudes and behaviors of wine tourists. *Tourism Management*, 29(5), 950–966.

Gentile, C., Spiller, S., Noci, C., (2007), How to sustain the customer experience: an overview of experience components that co-create value with the customer. *European Management Journal* 25(5), 395–410.

Getz, D., (2000), Explore Wine Tourism: Management, Development and Destinations. *Tourism Management* 23(6), 641-643.

Getz, D., & Brown, G. (2006), Critical success factors for wine tourism regions: A demand analysis. *Tourism Management*. 27(1), 146–158.

Gross, M. J., & Brown, G. (2006), Tourism experiences in a lifestyle destination setting: The roles of involvement and place attachment. *Journal of Business Research*, 59(6), 696–700.

Hjalager, A., Corigliano, M., (2000), Food for tourists: determinants of an image. *International Journal of Tourism Research* 2(4), 281–293.

Jakkola, E., Helkkula, A., Aarikka-Stenroos, L., (2015), Understanding and advancing service experience co-creation. *Journal of Service Management* 26(2), 182-205

Kim, Y.G., Eves, A., Scarles, C., (2009), Building a model of local food consumption on trips and holidays: a grounded theory approach. *International Journal of Hospitality Management* 28(3), 423–431.

Kim, Y. G. & Won S., B. & Eves, A. (2010), The relationships between food-related personality traits, satisfaction, and loyalty among visitors attending food events and festivals. *International Journal of Hospitality Management*. 29(2), 216-226.

Kim, S., Knutson, B., Beck, J., (2011), Development and testing of the Consumer Experience Index (CEI). *Managing Service Quality* 21(2), 112–132.

Klaus, P., Maklan, S., (2012), EXQ: a multiple-item scale for assessing service experience Journal od Service Management 23(1), 5–33.

Naylor, G., Keiser, B., Baker, J., Yorktown, E., (2008), Using transformational appeals to enhance the retail experience. *Journal of Retailing* 84(1), 49–57.

Oliver, R., (1997), Satisfaction: A Behavioral Perspective on the Consumer. McGraw- Hill, New York.
Oliver, R., Burke, R., (1999), Expectation processes in satisfaction formation: a field study. *Journal of Service Research* 1(3), 196–214.
Pliner, P., Hobden, K., (1992), Development of a scale to measure the trait of food neophobia in humans. *Appetite* 19(2), 105–120.
Pine II, B., Gilmore, J., (1998), Welcome to the experience economy. *Harvard Business Review* 76(4), 97–105.
Raudenbush, B., Frank, R.A., (1999), Assessing food neophobia: the role of stimulus familiarity. *Appetite* 32(2), 261–271.
Ritchey, P.N., Frank, R.A., Hursti, U., Tuorila, H., (2003), Validation and cross-national comparison of the food neophobia scale (FNS) using confirmatory factor analysis. *Appetite* 40(2), 163–173
Sandstrom, S., Edvardsson, B., Kristensson, P., Magnusson, P., (2008), Value-in-use through service experience. *Management of Service Quality* 18(2), 112–126.
Schmitt, B., (1999), Experiential marketing. *Journal of Marketing Management* 15(1-3),56–67.
Sparks, B. (2007), Planning a wine tourism vacation? Factors that help to predict tourist behavioral intentions. *Tourism Management*, 28(5), 1180–1192
Taylor, R., & Shanka, T. (2007), Importance of wine festival characteristics in determining first-time and repeat visitors' festival experience. Curtin University of Technology. Conference.
Treloar, P., & Hall, C. M. (2008), Tasting fees and the youth market. *Revista Brasileira de Pesquisa em Turismo*, 2(2), 113–127.
Yuan, J., Cai, L. A., Morrison, A. M., & Linton, S. (2005), An analysis of wine festival attendees' motivations: A synergy of wine, travel and special events? *Journal of Vacation Marketing*, 11(1), 41–58.

Suzana Marković, Ph.D., Full Professor
University of Rijeka, Faculty of Tourism and Hospitality Management Opatija
Department of Quantitative Economics
Primorska 42, p.p. 97, 51410 Opatija, Croatia
Phone: +385 99 245 5901
E-mail address: suzanam@fthm.hr

Aleksandar Racz, Ph.D., Assistant Professor & doctoral student
University of Applied Health Sciences
Mlinarska 36, 10000 Zagreb, Croatia.
University of Rijeka, Faculty of Tourism and Hospitality Management Opatija
Primorska 42, p.p. 97, 51410 Opatija, Croatia
Phone: +385 91 4595 722
E-mail address: aleksandar.racz@zvu.hr

Josipa Mijoč, PhD, Associate Professor
University of Josip Juraj Strossmayer Osijek
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7, 31000, Osijek, Croatia
Phone: +385-31-224400
E-mail address: josipa.mijoc@gmail.com

LOCAL FOOD FESTIVAL: TOWARDS A SUSTAINABLE FOOD TOURISM EXPERIENCE

LOKALNI FESTIVAL HRANE: U PRAVCU DOŽIVLJAJA ODRŽIVOG TURIZMA HRANE

ABSTRACT

Local food festivals are interesting tourist attractions that have a significant impact on creating a destination's image. This study aims to assess the perceived festival service quality attribute and identify the factor structure of perceived festival service quality. Data were collected from a sample of 94 visitors to the 17th Asparagus Festival held as a one-day event in April 2017 in Lovran (Croatia). Descriptive statistics and factor analysis were performed to analyze the collected data. The research finding indicate a relatively high level of festival service quality. Four festival quality factors (information adequacy and program, food, staff, facilities) were identified. This study provides interesting findings that will assist festival organizers in developing and implementing service strategies to increase quality and image and enhance the emotions and satisfaction of attendees in order to attain their loyalty towards local food festivals.

Key words*: food tourism, food festival, tourism experience, festival service quality, statistical analysis.*

SAŽETAK

Lokalni festivali hrane predstavljaju zanimljive turističke atrakcije koje imaju značajni utjecaj prilikom stvaranja imidža destinacije. Cilj ovog istraživanja je procijeniti dimenzije percipirane kvalitete festivalskih usluga, te utvrditi njihovu faktorsku strukturu. Podaci su prikupljeni na uzorku od 94 posjetitelja na 17. Festivalu šparoga koji se održao kao jednodnevni događaj u travnju 2017. u Lovranu (Hrvatska). Prikupljeni podaci analizirani su metodama deskriptivne i faktorske analize.

Rezultati istraživanja pokazuju razmjerno visoku razinu kvalitete festivalskih usluga. Utvrđena su četiri faktora kvalitete festivala (primjerenost informacija i programa, hrana, osoblje, objekti). Ovo istraživanje pruža zanimljive rezultate koji mogu koristiti organizatorima festivala za razvoj i primjenu uslužnih strategija za poboljšanje kvalitete i imidža, te emocija i zadovoljstva prisustvovanja festivalima, kako bi se postigla vjernost prema lokalnim festivalima hrane.

Ključne riječi: *turizam hrane, festival hrane, turistički doživljaj, kvaliteta festivalske usluge, statistička analiza.*

1. Introduction

Food tourism is an increasingly important tourism phenomenon. Food is a significant tourism attraction element which enhances the experience of visitors and plays a prominent role in influencing tourists' selection of a destination (Long, 2004). Therefore, many destinations now use food as a promotional strategy to attract as many tourists as possible. Dining is considered a special experience because it satisfies all five senses: sight, smell, touch, sound and taste (Kivela and Crotts, 2006). As a result, many tourists travel for the purpose of experiencing food. Local food is now becoming a priority for a destination. It has the potential to enhance the dimensions of sustainability in tourism by contributing to the authenticity of place, and can help strengthen local economies as well as provide environment-friendly infrastructure. Within this context, food festivals are important components of local food tourism strategies because a destination can promote places, activities and local food products so as to develop a new value of experience for tourists. According to Getz (2005) festivals are *"themed, public celebration"*. A food festival is a *"public event that centers on specific food or food related items or behaviors"* (Hu, 2010).

Over the past two decades, local festivals have received growing attention from academic researchers (Kim, Su and Eves, 2010; Anil, 2012; Mason and Paggiaro, 2012; Wan and Chan, 2013; Wu, Wong and Cheng, 2014). Accordingly, topics about festival quality continue to be interesting to examine. Therefore, the main purpose of this study is to examine festival quality attributes on a small local food festival in Croatia. The study aims to assess the perceived festival service quality attributes and identify the factor structure of perceived festival quality.

The paper is organized in five sections. The following section gives an overview of studies that examined the concepts of festival, food festival and festival quality. The next section lays out the methodology and is followed by research results. In the final section, conclusions and implications are discussed. The finding provides insights into and a better understanding of food festival tourism and festival quality.

2. Conceptual Background

Festival tourism

Festival tourism is one of the fastest growing segments of the world's leisure industry (Getz, 1998). Festivals provide unique opportunities for leisure and social and cultural experiences (Getz, 1998), often help generate business and income for the host community (Allen et al., 2005) and promote a positive image of the local community (Kim et al., 2008). The strategies placement of a festival in the local tourism calendar can also help extend the tourism season (Felsenstein and Fleischer, 2003). For these reasons, destinations marketers, businesspeople and communities are engaged in *"the systematic planning, development and marketing of festivals and events as tourist attractions, image-makers and catalysts for other developments or as animators of built attractions"* (Getz, 1998, p. 411).

Food festivals

Among the various types of festivals, food festivals are one of the most popular (Xie, 2003). Food festivals are *"festivals that purport to centers on and revolve around food"* (Lewis, 1997, p. 1). Food festivals are major tourist attractions and motivations for travel (Park et al., 2008). Food-related festival activities are also easy ways to entertain community members and visitors of all ages because of the close links between food and the daily lives of human beings (Hu, 2010).
Food festivals provide visitors with a total tourism experience rather than only a food tasting or eating experience (Yean et al., 2005). Festival attendees can socialize and engage in cultural activities, such as visiting art galleries, historical places and parks (Crompton and McKay, 1997), find hidden gastronomic treasures normally known only to locals (Cela et al., 2008), taste unfamiliar food and dishes and learn about a particular society's culture and tradition. The authors suggest that food festival can play a vital role in tourism development in Croatia.

Festival quality

Early festival studies investigated festival quality, applying the renowned SERVQUAL model designed by Parasuraman, Zeithaml and Berry (1988) which consisted of five dimensions of service quality (reliability, tangibles, responsiveness, assurance and empathy). However, many studies did not confirm SERVQUAL dimensions in a festival context. Crompton and Love (1995) took the first step to compare the validity of alternative approaches to measure service quality and satisfaction in a festival context. Findings of their research suggested that the most valid measures of festival quality are the constructs measuring performance only.
Lee et al. (2008) identified seven dimensions representing the "festivalscape" (convenience, staff, information, program content, facility, souvenirs and food quality) and examined relationships between these dimensions, emotions, satisfaction and loyalty. Cole and Chancellor (2009) examined the factors that affect visitors' overall experience, satisfaction and re-visit. In their research they used SEM and found out that entertainment quality had a stronger impact than programs and amenities. On the other hand, Yoon et al. (2010) discovered that the festival program had the most significant influences on value, which in turn, contributed to visitor' satisfaction and loyalty. Similar findings are confirmed in the study of Lee et al. (2011) who also found that the festival program has a positive emotional and functional value, emotional value having a stronger influence on satisfaction than functional value. Results of a study at an Australian Jazz and Blues Festival by Tkczanski and Strokes (2010) led to the conclusion that customer satisfaction is directly related to the repurchase intentions of festival goers. In their study, professionalism and environment were found to predict satisfaction.
Anill (2012) found that out of three dimensions (food, festival area and convenience) that significantly affect visitor' satisfaction, the food dimension was the most important factor. Souvenirs, staff and information adequacy did not affect visitor' satisfaction. Mensah (2013) examined residents' satisfaction and behavioral intention towards local festivals. Among the five factors (ancillary services, participation, information, activities and security and duration on festival) festival activities were the most important factor influencing residents' satisfaction with a festival.

Methodology

The survey instrument was derived from previous literature pertaining to festivals (Yoon et al., 2010; Anil, 2012) and research was done at the 17th local Asparagus Food Festival in Lovran. The festival is held every year during the month of April and celebrates wild asparagus growing on the slopes of Mt Učka. Many restaurants and taverns offer meals featuring wild asparagus during the festival. The main event is held in the central square of Lovran. A total of 300 questionnaires were administered and 110 were returned. After the elimination of 16 questionnaires, 94 useful questionnaires were obtained, giving a response rate of 31 per cent.

Festival quality attributes were measured on a seven-point Likert-type scale with the following values: 1 – strongly disagree, 7 – strongly agree. Festival quality was measured using 17 attributes adopted from previous research. The respondents' demographic information included country of residence, age, gender, education, frequency of town visits and festival visit and motivations for visiting this particular local food festival.
Descriptive statistics, exploratory factor analysis and reliability analysis were performed to analyze the collected data. The data were analyzed using SPSS 23.0.

3. Results

Table 1 shows the respondents' demographic profile and characteristics of their trip. Most respondents were domestic visitors (90.4%), younger than 40 years of age and have finished high school (44.7%) or university (45.7%). Over half of the respondents (66%) were female and had visited the town more than five times (74.5%). According to the results of analysis, more than half of the respondents (55.5%) were attending the festival for the first time. The primary motivation for visiting the festival was "hanging out with family and/or friends" (34.4%), followed by "escaping from routine/relaxation" (23.2%) and "tasting local food" (20%).

***Table 1** Profile of survey respondents (N=94)*

Variables and characteristics		Respondents	
		Frequency	Percentage
Country	Croatia	85	90.4
	Others	9	9.5
Gender	Male	34	36.2
	Female	66	63.8
Age	Less than 20	5	5.3
	20 – 29	34	36.2
	30 – 39	22	23.4
	40 – 49	12	12.8
	50 – 59	15	16.0
	60 or more	6	6.4
Education	Elementary school or below	1	1.1
	High school diploma	42	44.7
	University degree	43	45.7
	M. Sc / Ph. D.	8	8.5
Frequency of town visits	First time	13	13.8
	2 – 5 times	11	11.7
	>5 times	70	74.5
Frequency of festival visits	First time	52	55.3
	2 – 5 times	20	21.3
	>5 times	22	23.4
Motivations to visit festival (multiple choice)	Hanging out	43	34.4
	Meeting new people	4	3.2
	Escaping from routine / relaxation	29	23.2
	Tasting local food	25	20.0
	Learning about local food	5	4.0
	Sharing photos of local dishes with friends	1	0.8
	Other	18	14.4

Source: Authors

Table 2 illustrates the results of descriptive statistical analysis and factor analysis (FA). Descriptive statistics was applied to determine visitors' perceptions regarding festival service quality attributes ranging from 1 (very low perception) to 7 (very high perception). The results indicate that the mean scores of visitors' perceptions range from 4.04 to 5.87. The items with the lowest perception scores were "restrooms are convenient" and "the signs showing the festival area for visitors provide sufficient information". The highest perception scores were noted with regard to staff helpfulness, kindness, knowledge and promptness. The overall mean score was 5.08, indicating a relatively high level of festival service quality.

***Table 2** Results of descriptive and factor analysis of festival quality attributes*

Items	Mean	Factor loadings			
		Factor 1	Factor 2	Factor 3	Factor 4
Factor 1: Information adequacy and program					
The signboards provide sufficient information.	4,64	**.809**			
The signs showing the festival area for visitors provide sufficient information.	4.31	**.803**			
The brochures are well prepared.	4,64	**.716**			
The program is varied.	4,70	**.702**			
The program is well organized.	5,14	**.677**			
The program is well managed.	4,99	**.594**			
Factor 2: Food					
The food tastes good.	5,57		**.805**		
The food sold at the festival is of very good quality.	5,28		**.792**		
The food is reasonably priced.	5,18		**.780**		
There is enough variety of food.	4,55		**.748**		
Factor 3: Staff					
The staff has enough knowledge about the festival.	5,63			**.818**	
The staff responds to our request quickly.	5,54			**.812**	
The staff is willing to help us.	5,87			**.800**	
The festival staff is kind.	5,86			**.718**	
Factor 4: Facilities					
Parking facility is convenient.	4,72				**.906**
The size of the festival area is adequate.	5,64				**.759**
Restrooms are convenient.	4,04				**.688**
Eigenvalue		*3.706*	*3.406*	*3.163*	*2.589*
% of Variance		*21.798*	*20.036*	*18.608*	*15.230*
Cronbach's alpha		*0.897*	*0.863*	*0.895*	*0.791*
Number of items		*5*	*4*	*4*	*3*

Source: Authors

Principal component analysis was done to determine festival quality dimensions. The appropriateness for conducting factor analysis was assessed with Kaider-Meyer-Olkin's measure (KMO) and Bartlett's sphericity test (Hair et al., 2006). The KMO measure verified the sampling adequacy for analysis, KMO=0.85 (Hutcheson and Sofroniou, 1997). Bartlett's test is significant (χ^2= 1201.224; df=136; Sig. =0.000) and shows there is strong correlation among the variables. After verifying the suitability of the scale for conducting FA, the principal component method was used with varimax rotation.

The 17 variables representing festival quality attributes were reduced to four factors (information adequacy and program, food, staff and facilities), explaining 75.67% of total variance. Factor loadings were relatively high, ranging from 0.594 to 0.906. all items were above the minimum of 0.50 and were considered significant (Hair et al., 2006). Cronbach's alpha coefficient for the extracted factors ranged from 0.791 to 0.897 and was 0.961 for the overall scale, indicating its high reliability.

4. Conclusion

This study explored the dimensions of festival service quality and the reliability of the instrument. The results indicated that visitors are satisfied with attributes related to staff (helpfulness, kindness, knowledge and promptness) and food (tastiness, quality and price). On the other hand, attributes related to facilities and information adequacy were the worst-rated, indicating that these areas of service require improvement in order to ensure festival quality that contributes to visitors' satisfaction and leads to positive behavioral intentions.

The findings of factor analysis revealed that the main dimensions of festival service quality of the local food festival were “information adequacy and program”, “food”, “staff” and “facilities”. Previous studies conducted in the local food festival context identified similar dimensions of festival service quality. Taking into consideration that different authors have given different named to factors, it appears that the most common factors of festival service quality are “information”, “program”, “food” and “facilities”. These dimensions are consistent in the present study as well.
This study is not without limitation. The first limitation is the small sample size. Since the majority of respondents were domestic visitors, we could not examine if the perception of foreign tourist is different. This study focused on only one local food festival and findings could not be generalized. Despite these limitations, the findings of this study contribute to the existing knowledge of the main concept of research and provide useful information for a better understanding of local food festivals.
Future research should conduct similar studies and use a more representative sample in order to generalize findings. Other aspects of festival service quality could be examined. Research could also examine differences between tourist and local resident perception of festival service quality as well as differences between first-time visitors and repeat visitors. Qualitative research methods could be implemented in future research to obtain a better understanding of local food festival quality and its impact on satisfaction and positive visitor’ intention. Future research could examine festival loyalty and its relevant constructs from the exhibitor’s and organizer’s perspective. Finally, it would be interesting to conduct a longitudinal study and measure behavioral intentions and actual visitors’ behavior.

Acknowledgement - This paper is the result of the scientific project “*New Approaches to Measuring Visitor Experience in the Tourist Destination*”, which is supported by the University of Rijeka (project ZP UNIRI 3/17).

REFERENCES

Allen, J., O’Toole, W., McDonnell, I., Harris, R. (2005), Festival and Special Event Management, John Wiley and Sons, Australia

Anil, N. K. (2012). Festival visitors’ satisfaction and loyalty: An example of small, local, and municipality organized festival. *Truism: znanstveno-stručni časopis*, 60(3), 255-271.

Cela, A., Knowles-Lankford, J., Lankford, S. (2008), Local food festival in Northeast Iowa communities: a visitor and economic impact study, In Events and Festivals: Current trends and issues, Robertson, M., Frew, E. (ed.), Routledge, London & New York, 70-85

Cole, S. T., & Chancellor, H. C. (2009). Examining the festival attributes that impact visitor experience, satisfaction and re-visit intention. *Journal of Vacation Marketing*, 15(4), 323-333.

Crompton, J. L., & McKay, S. L. (1997). Motives of visitors attending festival events. *Annals of Tourism Research*, 24(2), 425-439.

Crompton, J. L., McKay, S. L. (1997), Motives of visitors attending festival events, Annals of Tourism Research, 24(2), 425-439

Felsenstein, D., Fleischer, A. (2003), Local festivals and tourism promotion: the role of public assistance and visitor expenditure, Journal of Travel Research, 41(4), 385-392

Getz, D. (1998), Event Tourism and the authenticity dilemma, In Global Tourism, Theobald WF (ed.) Butterworth-Heinemann, Oxford, 409-427

Getz, D. (2005). *Event Management and Event Tourism*, 2d ed. New York: Cognizant

Hair, J. F., Black, W. C., Babin, B.J. Anderson, R.E. & Tatham, R. K. (2006). *Multivariate data analysis*, 6th Edition, Upper Saddle River, NJ: Pearson Prentice Hall

Hu, Y. (2010), An exploration of the relationship between festival expenditures, motivations and food involvement among food festival visitors. Unpublished thesis, University of Waterloo, Canada

Kim, Y. G., Suh, B. W., & Eves, A. (2010). The relationships between food-related personality traits, satisfaction, and loyalty among visitors attending food events and festivals. *International Journal of Hospitality Management*, 29(2), 216-226.

Kivela, J., Crotts, J. (2006): Tourism and gastronomy: Gastronomy's influence on how tourists experience a destination, Journal of hospitality and tourism research, 354-377
Lee, C. K., Lee, Y. K., & Wicks, B. E. (2004). Segmentation of festival motivation by nationality and satisfaction. *Tourism management*, 25(1), 61-70.
Lee, J. S., Lee, C. K. and Choi, Y. (2011). Examining the role of emotional and functional values in festival evaluation. *Journal of Travel Research*, 50(6), 685-696.
Lee, Y. K., Lee, C. K., Lee, S. K., & Babin, B. J. (2008). Festivalscapes and patrons' emotions, satisfaction, and loyalty. *Journal of Business Research*, 61(1), 56-64.
Levis, G. H. (1997), Celebrating Asparagus: community and the rationally constructed food festival, Journal of American Culture, 20(4), 73-78
Long, L. M., (2004): Culinary Tourism, The university of Press of Kentucky, Kentucky
Lyck, L. (2012). Festival Management in Times of Recession. in Lyck, L., Long, P. & Grige A. X. (Eds.), *Tourism, Festivals and Cultural Events in Times of Crisis*, Chapter 1. Frederiksberg: Copenhagen Business School Press, 9-22.
Mair, J., & Whitford, M. (2013). An exploration of events research: event topics, themes and emerging trends. *International Journal of Event and Festival Management*, 4(1), 6-30.
Mason, M. C., & Paggiaro, A. (2012). Investigating the role of festivalscape in culinary tourism: The case of food and wine events. *Tourism Management*, 33(6), 1329-1336.
Mensah, C. (2013). Residents' Satisfaction and Behavioral Intention with Asogli Yam Festival in Ghana. *International Journal of Asian Social Science*, 3(3), 682-702.
Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*, 64(1),14-40.
Parks, K. S., Reisinger, Y., Kang, H. J. (2008), Visitors' motivation for attending the South Beach wine and food festival, Miami beach, Florida, Journal of Travel and Tourism Marketing, 25(2), 161-181
Tkaczynski, A., & Stokes, R. (2010). FESTPERF: A service quality measurement scale for festivals. *Event Management*, 14(1), 69-82.
Wan, Y. K. P., & Chan, S. H. J. (2013). Factors that affect the levels of tourists' satisfaction and loyalty towards food festivals: a case study of Macau. *International journal of tourism research*, 15(3), 226-240.
Wu, H. C., Wong, J. W. C., & Cheng, C. C. (2014). An empirical study of behavioral intentions in the food festival: The case of Macau. *Asia Pacific Journal of Tourism Research*, 19(11), 1278-1305.
Xie, P.E. (2003), Visitors' perceptions of authenticity at a rural heritage festival: a case study, Event Management, 8(3), 151-160
Yoon, Y. S., Lee, J. S., & Lee, C. K. (2010). Measuring festival quality and value affecting visitors' satisfaction and loyalty using a structural approach. *International Journal of Hospitality Management*, 29(2), 335-342.

Ph.D. Katarina Marošević, Assistant Professor
Faculty of Law/Chair of Economic Sciences
Radićeva 13, Osijek
Phone: 031 224 567 Fax: 031 224 540
E-mail address: katarina.marosevic@pravos.hr

REGIONAL DEVELOPMENT OF EASTERN CROATIA

REGIONALNI RAZVOJ ISTOČNE HRVATSKE

ABSTRACT

A long-term trend of Eastern Croatia economically falling behind Croatia's average is expressed through many indicators. So, a contemporary context of the development of this part of Croatia requires substantial investments and implementation of decentralizing and other measures. A trend that is especially worrisome, along already-mentioned low economic development level, is associated with extreme depopulation which is caused by long-term negative population growth values and amplified by current emigration processes of mechanical population migration.
Taking into account the need to create economic policies targeted to stop negative trends concerning "loss" of population as well as those aimed to improve economic indicators of municipalities in Eastern Croatia, the goal of this paper is to analyse current situation in five counties in Eastern Croatia which have been falling behind the others economically. It will also include a review of current migration and depopulation values. After reviewing several indicators some suggestions could be provided. Analysis will be corroborated by available data from relevant state institutions and Eurostat with the goal of presenting those negative trends in regional development.

Key words: *regional development, Eastern Croatia, decentralization, counties.*

SAŽETAK

Dugoračan trend zaostajanja Istočne Hrvatske u odnosu na prosjek Republike Hrvatske očituje se putem brojnih pokazatelja. Stoga suvremeni kontekst razvoja ovoga dijela Republike Hrvatske zahtijeva značajne investicije i provedbe decentralističkih i drugih mjera. Posebno zabrinjavajući trend, uz već spomenuti nizak stupanj ekonomskog razvoja, veže se uz iznimno smanjenje stanovnika, uzrokovano dugoročnim negativnim prirodnim kretanjima, a dodatno pojačano trenutnim emigracijskim procesima mehaničkog kretanja stanovnika.
S obzirom na potrebu stvaranja usmjerenih ekonomskih politika na sprečavanju negativnih trendova po pitanju "gubitka" stanovništva, kao i onih usmjerenih na poboljšanje ekonomskih pokazatelja županija Istočne Hrvatske, cilj rada je analizirati trenutna stanja u pet županija Istočne Hrvatske koje zaostaju u razvoju, uz uključivanje osvrta i na pokazatelje stanovništva. Nakon uvida u analizirane podatke moguće je pružiti nekoliko sugestija. Analizirana stanja potkrijepit će se dostupnim podacima relevantnih državnih institucija te Eurostata, a u svrhu prikazivanja navedenih negativnih kretanja regionalnog razvoja.

Ključne riječi: *regionalni razvoj, Istočna Hrvatska, decentralizacija, županije.*

1. Introduction

Eastern Croatia consists of five counties; Brod-Posavina, Osijek-Baranja, Požega-Slavonia, Vukovar-Srijem and Virovitica-Podravina. In terms of economic, demographic and other indicators these counties mostly record lower values and negative trends. Considering long-term trend of worse results in these counties compared to Croatian average as well as a significant gap compared to some of the most successful counties, the goal of this paper is to analyze current condition of these five counties in Eastern Croatia that lag behind in development and to review demographic changes because economic result of a specific county can be an attractive element in increasing population number.

Negative results measured in Eastern Croatia's counties are monitored on different levels, and indicators which this paper will analyze care connected to relevant domestic and foreign institutions. From their birth, counties in Eastern Croatia had problems in achieving adequate economic growth rates and causes for this can be many. This leading position in underdevelopment and review of stated negative trend is confirmed in this paper by adequate individual and joint indicators measured by relevant institutions (for example Croatian Bureau of Statistics, Ministry of Regional Development and European Union Funds, Croatian Chamber of Commerce, Eurostat).

This paper is structured in four chapters with introduction that highlights the goal as well as sources for empirical data. The second chapter deals with basic characteristics of counties in Eastern Croatia and causes for their low development level. Composite indexes calculated by relevant institutions are shown in a subsection of this chapter. Third chapter reviews these counties with respect to European context while fourth and final chapter provides conclusions and remarks connected to the topic.

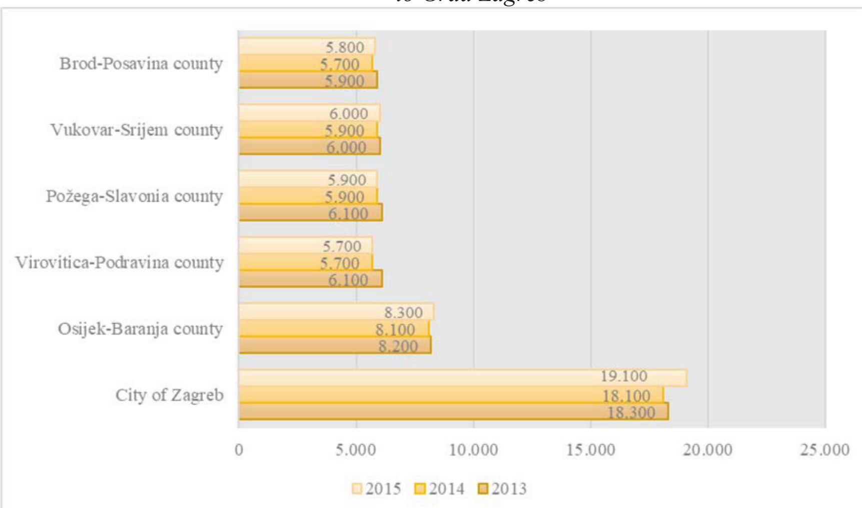
2. A look into eastern Croatian counties: basic determinants and causes of underdevelopment

The system of local government was founded by a law in 1992, and stared functioning in 1993 when legislature determined its territorial organization, scope of its authority, electoral system and financing methods. It was first applied after first elections (Croatian Chamber of Commerce, 2016). As stated by Kordej-De Villa & Pejnović (2015), creation of homogenous regions is a precondition for a successful regional policy and makes review of development measures more simple and logical. Still, Croatia is troubled by disparities on different levels including economic, demographic, infrastructure and many others. Some important information connected to causes and consequences of Eastern Croatia lagging behind other regions are brought by Matišić & Pejnović (2015) and they are related to interdependence of several factors with majority of negative trends connected to Homeland War, the process of ownership transformation and privatization and negative effects of economic and social restructuring. With this in mind, discussing causes of economic disparity Pejnović & Kordej De-Villa (2015, 322) state these causes as *"... structural worsening of Croatian economy since late 1980s, material destruction and reduced manpower due to Homeland War, the process of ownership transformation or incomplete ownership restructuring during the transitional period"*.

According to data published by Croatian Bureau of Statistics, Priopćenje (2016), it is estimated that five counties in Eastern Croatia had population number of 768.552 in 2015 which was 18.28% of total population in Croatia. This figure in 2015 presents a 2.92% reduction compared to 2013 for those five counties. As calculated by Pejnović & Kordej De-Villa (2015; figures from Croatian Bureau of Statistics) Eastern Croatia totals 22% of total Croatian territory. It can be concluded that territory of all five counties in Eastern Croatia, about one fifth of total Croatian territory, is developed below Croatian average which had negative effects on 18,81% of Croatian population. Newer data estimates population loss to be as high as 4.64% in 2015 compared to data from population census in 2011. Sadly, indicators related to economic performance of five counties in Eastern Croatia are mostly below national average and present a serious gap when compared to

Zagreb, the capital city of Croatia. With respect to this, results of achieved GDP per capita at current market prices in euro according to counties of Eastern Croatia (Graph 1) as well as achieved levels according to same indicators in the most successful county, The City of Zagreb from 2013 to 2015 are taken as a starting point in determining low levels of economic performance in Eastern Croatia.

Graph 1 *GDP per capita at current market prices in euro by counties of Eastern Croatia compared to Grad Zagreb*



Source: Author's production, according to Eurostat official page and Eurostat, 2018

It is evident that GDP per capita at current market prices in euro did not change significantly in 2013 – 2015 period, but was changed the most in counties that are the one that belong to end value county in terms of development level – the most developed and the most undeveloped ones. This points us to increasing development gap and increasing lagging behind of those that are already underdeveloped. According to data provided, difference multiplier between the most and the least developed regions is 3.35 for year of 2015.

2.1. Relevant calculations of achieved development level in Eastern Croatia

Other than the usual indicators used to measure economic success like for example already mentioned GDP per capita, measurements using composite indexes are connected to calculations made by Ministry of Regional Development and European Union Funds through so-called development index[i] of counties in Croatia. Development index takes into account several important indicators and is shown in this paper (Table 1) for three years according to available data – 2018, 2013 and 2010. According to Marcelić (2015), development index needs certain modifications to be able to represent the component of human development more accurately.[ii] On the other side, Perišić (2014) states alternative ways to grade and classify territorial units based on socioeconomic development level. However, independent from various critical approaches it can be pointed out that, as stated by Marcelić (2015, 310) *"development index represents the first official method of classification for all Croatian administrative territorial units and is one of foundations for regional development policy"*.

Table 1 Development index for 2018, 2013 and 2010

Counties according to development index (2018); (development group)	County development index (2018, %)	Counties according to development index (2013); (development group)	County development index (2013, %)	Counties according to development index (2010); (development group)	County development index (2010, %)
(I) City of Zagreb (GZG)	117.758	(I) GZG	186.44	(I) GZG	187.54
(I) Istria (IŽ)	108.970	(I) IŽ	156.80	(I) IŽ	156.13
(I) Dubrovnik-Neretva (DNŽ)	108.580	(I) PGŽ	139.21	(I) PGŽ	142.32
(I) Zagreb (ZGŽ)	105.890	(II) ZGŽ	124.23	(II) ZGŽ	123.22
(I) Primorje-Gorski Kotar (PGŽ)	105.278	(II) DNŽ	120.84	DNŽ	107.93
(II) Zadar (ZDŽ)	104.654	(II) ZDŽ	106.39	VŽ	96.30
(II) Split-Dalmatia (SDŽ)	103.930	(III) SDŽ	93.75	SDŽ	89.09
(II) Varaždin (VŽ)	101.713	(III) VŽ	86.34	KZŽ	87.72
(II) Međimurje (MŽ)	100.502	(III) ŠKŽ	80.93	ZDŽ	75.59
(III) Krapina-Zagorje (KZŽ)	98.976	(IV) KZŽ	73.24	MŽ	75.11
(III) Koprivnica-Križevci (KKŽ)	98.493	(IV) MŽ	69.65	KKŽ	64.32
(III) Šibenik-Knin (ŠKŽ)	97.041	(IV) LSŽ	64.82	ŠKŽ	63.30
(III) Osijek-Baranja (OBŽ)	96.009	(IV) KKŽ	59.19	LSŽ	55.48
(III) Karlovačka (KŽ)	95.191	(IV) KŽ	56.34	KŽ	54.52
(III) Požega-Slavonia (PSŽ)	93.947	(IV) OBŽ	46.07	OBŽ	52.88
(IV) Brod-Posavina (BPŽ)	93.449	(IV) SMŽ	38.70	SMŽ	48.50
(IV) Bjelovar-Bilogora (BBŽ)	92.576	(IV) PSŽ	33.81	PSŽ	43.95
(IV) Lika-Senj (LSŽ)	92.387	(IV) BBŽ	23.29	BBŽ	35.17
(IV) Vukovar-Srijem (VSŽ)	91.992	(IV) VSŽ	18.73	BPŽ	33.36
(IV) Sisak-Moslavina (SMŽ)	91.701	(IV) BPŽ	18.43	VSŽ	20.57
(IV) Virovitica-Podravina (VPŽ)	90.666	(IV) VPŽ	5.56	VPŽ	20.51

Source: Ministry of Regional Development and European Union Funds (2018): https://razvoj.gov.hr/UserDocsImages//O%20ministarstvu/Regionalni%20razvoj/indeks%20razvijenosti//Vrijednosti%20indeksa%20razvijenosti%20i%20pokazatelja%20za%20izračun%20indeksa%20razvijenosti_jedinice%20područne%20(regionalne)%20samouprave.pdf, (2013) : https://razvoj.gov.hr/UserDocsImages//O%20ministarstvu/Regionalni%20razvoj/indeks%20razvijenosti/Dosadašnji/2013//Vrijednosti%20indeksa%20razvijenosti%20na%20županijskoj%20razini%202013..pdf; (2010): https://razvoj.gov.hr/UserDocsImages//O%20ministarstvu/Regionalni%20razvoj/indeks%20razvijenosti/Dosadašnji/2010//Vrijednosti%20indeksa%20razvijenosti%20i%20pokazatelja%20za%20izračun%20na%20županijskoj%20razini%202010..pdf, (April 15, 2018)

Development index calculations provided by Ministry of Regional Development and European Union Funds used the same methodology for 2010 and 2013. Methodology was somewhat changed for 2018, but still reveals extremely low performance for five counties in Eastern Croatia with Virovitica-Podravina county being the least developed as was also shown in calculations for 2010 and 2013. Furthermore, stated composite index from Ministry of Regional Development and European Union Funds is not an isolated case – estimates are also confirmed by composite index of Croatian Chamber of Commerce using economic strength index per county. This index, as shown in Croatian Chamber of Commerce (2016, 14) represents a composite index used for better economic positioning of counties and creation of analytical base to monitor changes in levels of economic development for Croatian counties (Table 2).

Table 2 Index of economic strength of Croatian counties

County	HGK economic strength index(2016), RH=100	County	HGK economic strength index (2017), RH=100
City of Zagreb	149.3	City of Zagreb	147.6
Istria	127.2	Istria	127.3
Primorje-Gorski Kotar	105.1	Primorje-Gorski Kotar	105.5
Varaždin	96.2	Varaždin	99.6
Dubrovnik-Neretva	93.1	Zagreb	95.2
Zagreb	92.5	Dubrovnik-Neretva	92.1
Zadar	91.1	Zadar	91.3
Koprivnica-Križevci	90.1	Međimurje	91.0
Međimurje	89.2	Koprivnica-Križevci	90.7
Karlovac	85.5	Krapina-Zagorje	87.1
Krapina-Zagorje	85.4	Karlovac	85.8
Split-Dalmatia	82.2	Osijek-Baranja	80.9
Šibenik-Knin	80.3	Split-Dalmatia	80.8
Sisak-Moslavina	79.6	Sisak-Moslavina	79.7
Osijek-Baranja	79.2	Šibenik-Knin	77.6
Lika-Senj	75.0	Vukovar-Srijem	77.3
Vukovar-Srijem	72.6	Ličko-senjska	76.0
Brod-Posavina	70.0	Brod-Posavina	71.6
Požega-Slavonia	68.5	Bjelovar-Bilogora	68.0
Virovitica-Podravina	68.2	Požega-Slavonia	67.9
Bjelovar-Bilogora	66.9	Virovitica-Podravina	67.7

Source: Croatian Chamber of Commerce (2016: 15). Hrvatska – velike gospodarske razlike na malom prostoru, Croatian Chamber of Commerce, Sektor za financijske institucije, poslovne informacije i ekonomske analize Odjel za makroekonomske analize. Available on: https://www.hgk.hr/documents/upanijevelikegospodarskerazlikenamalomprostoru5757722c5b20e65.pdf, (16.04.2018.); according to DZS, FINA, Ekonomski fakultet: „Demografski scenariji i migracije", izračuni HGK; za 2017 godinu: HGK indeks gospodarske snage, https://www.hgk.hr/documents/hgk-indeks-gospodarske-snage-07201759803f707ec38.pdf, (17 April 2018); according to DZS, Fina, Izračun HGK.

It is fairly obvious that last seven positions on the table are mostly occupied by five Eastern Croatian counties with four of them being in bottom five positions as stated by the report of Croatian Chamber of Commerce (2017). These are, from bottom to top, Virovitica–Srijem, Požega-Slavonia, Brod-Posavina and Vukovar-Srijem. Furthermore, it is necessary to point out that only three Croatian counties are above national average: The City of Zagreb, Istria and Primorje-Gorski Kotar. The effect of low development level on negative natural and mechanical fluctuations of population number is extraordinary. This is why certain authors like Jurun, Ratković & Ujević (2017) state the need to implement active demographic policies and to stimulate more prosperous administrative units to implement adequate active demographic policies without the need to wait for laws to be passed and national regulation thus making the whole implementation process cheaper. In context of Eastern Slavonia counties, as stated by Živić (2017), eastern continental part of Croatia is being demographically emptied faster than the rest of the country, i.e. spatial population polarization is being additionally deepened and results in unbalanced demographic load of national economy. Projections indicate that population of Eastern Croatia might be reduced by a fifth in 2030 compared to 2011. Pejnović & Kordej De-Villa (2015) confirm the link between economic and demographic development and state that differences in socioeconomic development are a key generator of population migration with underdeveloped areas losing essential demographic resources.

Moreover, Lončar & Marinković (2015) also point out the problem of lack of young and educated people who are usually generators of social and economic development and state that urban[iii] parts of Eastern Slavonia are more developed compared to rural areas, but population capacities and economic potentials are not used in a way which would increase regional prosperity and development level of this area. Therefore, the named author's recommendation is to exploit significant resources for further development of this region in agriculture, tourism and other economic activities. There has been research focused on these segments in Eastern Slavonia, such as work done by Demonja & Stepinac-Fabijanić (2017) who accentuate the need to develop potentials of rural areas in Eastern Croatia with cooperation of all participants considering that it is confirmed that local and regional initiatives represent important initiators of sustainable development of this part of Eastern Croatia.

Additional concern is also potential poverty of the population of counties in Eastern Slavonia compared to Croatia's average. Although most current data from Croatian Bureau of Statistics concerning rate of poverty risk for Croatian counties is available for 2011, this data reveals that extremely high risk of poverty is measured exactly in these most undeveloped parts of Croatia. In all five counties in Eastern Croatia risk of poverty according to expenditure method is over 30% while in City of Zagreb this rate is 5.9%. Other methods of measurement, for example, according to the other calculation method based on income, gives results of also very high rates ranging from 26.5 to 33.4 percent for Eastern Croatian counties, while in City of Zagreb this rate is 9.8% (Table 3).

Table 3 *Poverty risk rates according to expenditure and income for Eastern Croatian counties and City of Zagreb*

County	Poverty risk rate according to expenditure	Poverty risk rate according to income
Virovitica-Podravina	30.8	33.4
Požega-Slavonia	32.5	26.5
Brod-Posavina	33.9	35.9
Osijek-Baranja	24.9	28.0
Vukovar-Srijem	32.3	31.9
City of Zagreb	5.9	9.8

Source: Croatian Bureau of Statistics, Osobna potrošnja i pokazatelji siromaštva, stopa rizika od siromaštva u 2011. godini prema potrošnoj metodi te stopa rizika od siromaštva u 2011. godini prema dohodovnoj metodi

3. Eastern Croatia compared to the European Union

Taking into account European aspect of NUTS 3 regions positioning, once again data shown by results of comparative display of Eastern Croatian counties is devastating. This is also confirmed by data from Croatian Chamber of Commerce (2017), which shows that out of 1342 NUTS 3 regions in the EU Brod-Posavina county is the bottom Croatian NUTS 3 region in 2014 in position 1312. Furthermore, according to the same source it is evident that bottom four Eastern Croatian counties, aside from Osijek-Baranja, are in 2.5% of the bottom NUTS 3 regions in the EU. Data from Eurostat (2018) reveals that GDP per capita of Croatian counties was between 20 and 66 percent of European Union average, while the same indicator places that range for Eastern Croatian counties between 20 and 29%. Moreover, it is evident that all counties in Eastern Croatia recorded a decrease in these percentages in period from 2013 to 2015 compared to EU average. In table below specific data for achieved level of development expressed in BDP per capita of achieved EU average is shown (Table 4).

Table 4 *BDP per capita in percentage of the EU average for counties (NUTS 3 regions) of Eastern Croatia*

Counties of Eastern Croatia	2013 (%)	2014 (%)	2015 (%)
Virovitica-Podravina	23	21	20
Požega-Slavonia	23	21	20
Brod-Posavina	22	21	20
Vukovar-Srijem	23	21	21
Osijek-Baranja	30	29	29

Source: Eurostat (2018). Eurostat database, available at: http://ec.europa.eu/eurostat/data/database, (March 30, 2018).

According to Croatian Chamber of Commerce (2018) this gap between counties can be decreased by an increase in competitiveness of underdeveloped counties which can be achieved by using EU grants. This is also something that is necessary to do considering the fact that Croatia lags behind in EU funds use compared to other member states. For example, Ott, Bronić & Stanić (2016) analyze basic information about grants received by Croatian counties, cities and municipalities as users or partners in implementation of projects and programs financed by the EU and state that, independent of growing use of EU grants, sums are still relatively modest. Although there are excellent examples of EU grants use, still the percentage of counties, cities and municipalities that are willing and able to use EU grants is extremely low and point to the necessity of fiscal and territorial reorganization.

4. Conclusion

Development levels of counties in Eastern Croatia are disheartening. This attitude can be confirmed by analyzing data on national level but also compared to European context. There is a huge gap in development level which can be observed and confirmed in different aspects: economic, demographic, infrastructure and others. Most causes of underdevelopment of Eastern Croatia are well known and include deindustrialization, effects of war, negative effects of transition and especially privatization.

This paper confirms bottom positions of Eastern Croatian counties based on development index and economic strength index. This situation is a result of a trend of sorts considering that it has not changed over the years. Taking into account that achieved level of economic development has an impact on demographic development, Eastern Croatian counties record extreme population losses which is evident in population migration and lose significant demographic resources. Furthermore, all five counties in Eastern Croatia have very high risk of population poverty independent of calculation method.

From the aspect of an EU member state, counties in Eastern Croatia achieve 20 – 29% of EU average in 2015. Comparative display of data analysis for period 2013-2015 shows a worrisome decrease in these figures.

There is a lot of different recommendations that could help counties of Eastern Croatia to become more developed, but the ones concerning the scope and aim of this paper as a certain recommendations to economic policy decision makers should definitely include following:

- Active inclusion in available EU grants usage. One of the ways to achieve this is through education of a part of unemployed population about possibilities of EU grants to increase the rates in which available EU grants are used.
- Increase in retraining and specialization options for professions that need more employees.
- Population with tertiary education should be pointed to use of various forms of practical knowledge (depending on scientific disciplines they are specialized in).
- Increase in awareness level about the importance of lifelong education.

REFERENCES

Borozan, Đ. (2017). Internal Migration, regional Economic Convergence, and Growth in Croatia, International Regional Science Review Vol. 40 Is. 2, pp.141-163. Dostupno na: http://journals.sagepub.com/doi/full/10.1177/0160017615572889, (17 April 2018).

Demonja, D., Stepinac-Fabijanić, T. (2017). The Danube strategy in the sontext of development of rural areas in Eastern Croatia: The role of civil society organizations, Geographica Pannonica Vol 21 br. 2, pp. 124-131. Dostupno na: http://scindeks.ceon.rs/article.aspx?artid=0354-87241702124D, (17 April 2018).

Croatian Bureau of Statistics, Priopćenje (2016). Procjene stanovništva Republike Hrvatske u 2015, broj 7.1.4., Tablica 1. Procjena ukupnog stanovništva Republike Hrvatske po županijama sredinom godine od 2011. do 2015.

Eurostat (2018). Eurostat database, Available at: http://ec.europa.eu/eurostat/data/database, (March 30, 2018).

Croatian Chamber of Commerce (2016): Hrvatska – velike gospodarske razlike na malom prostoru, Hrvatska Gospodarska Komora, Sektor za financijske institucije, poslovne informacije i ekonomske analize Odjel za makroekonomske analize, https://www.hgk.hr/documents/upanijevelikegospodarskerazlikenamalomprostoru5757722c5b20e65.pdf, (accessed 16 April 2018)

Croatian Chamber of Commerce (2017): HGK indeks gospodarske snage, https://www.hgk.hr/documents/hgk-indeks-gospodarske-snage-07201759803f707ec38.pdf, (accessed 17 April 2018)

Jurun, E., Ratković, N. & Ujević, I. (2017). A cluster analysis of Croatian counties as the base for an active demographic policy, Croatian Operational Research Review Vol 8 No. 1, pp. 221-236.

Kordej-De Villa, Ž. & Pejnović, D. (2015). Planska područja Hrvatske u kontekstu regionalne politike. Hrvatski geografski glasnik, Vol. 77 No. 1., str. 47-69. Dostupno na: https://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=210549, (Accessed 17 April 2018)

Lončar, J. & Marinković, V. (2015). Analysis of socio-economic indicators in the context of the regional development of Eastern Croatia, Hungarian Geographical Bulletin 64 (4), pp. 327-344.

Marcelić, S. (2015). Kritička analiza hrvatskog indeksa razvijenosti: tri tipa razvoja I njihov regionalni položaj, Revija za Socijalnu politiku God. 22, br. 3, str. 309-333. Dostupno na: http://www.rsp.hr/ojs2/index.php/rsp/article/viewFile/1237/1307, (19.04.2018.)

Perišić, A. (2014). Multivarijantna klasifikacija jedinica lokalne i regionalne samouprave prema socioekonomskoj razvijenosti, Društena istraživanja Zagreb, God. 23 br. 2, str. 211-231. Dostupno na: https://hrcak.srce.hr/search/?stype=2&c%5B0%5D=article_author_orcid&t%5B0%5D=0000-0001-9180-0270, (accessed 20 April 2018).

Matišić, M., Pejnović, D. (2015): Uzroci i posljedice zaostajanja Istočne Hrvatske u regionalnom razvoju Hrvatske, Hrvatski geografski glasnik 77/2, str. 101-140.

Ministry of Regional Development and European Union Funds (2018): https://razvoj.gov.hr/UserDocsImages//O%20ministarstvu/Regionalni%20razvoj/indeks%20razvijenosti//Vrijednosti%20indeksa%20razvijenosti%20i%20pokazatelja%20za%20izračun%20indeksa%20razvijenosti_jedinice%20područne%20(regionalne)%20samouprave.pdf, (accessed 16 April 2018).

Pejnović, D., Kordej De-Villa, Ž. (2015). Demografski resursi kao indikatori čimbenik dispariteta u regionalnom razvoju Hrvatske, Društvena istraživanja Zagreb, God. 24 br. 3, str. 321-343.

Živić, D. (2017): Demografsko pražnjenje Istočne Hrvatske, Političke analize br. 31, str. 24-32.

ENDNOTES

[i] Clarifications on Ministry of Regional Development and European Union Funds development index as well as changes of development index from 2018 compared to earlier two measurements from 2013 and 2010, are available on: https://razvoj.gov.hr/o-ministarstvu/djelokrug-1939/regionalni-razvoj/indeks-razvijenosti/112, (20 April 2018).

[ii] Altough before the development indeks from 2018, methodologhy was changed compared to previous made measurements of development indexes from 2013 and 2010.

[iii] Živić, D. (2017) states that only city of Osijek is between 100% and 125% of average Croatian development level.

Mijana Matošević Radić, MSc
University of Split, Department for Professional Studies/
Senior Lecturer
Kopilica 5
21 000 Split
Phone: +385 (0) 915127564
E-mail address: mijana@oss.unist.hr

Domagoja Buljan Barbača, PhD
University of Split, Department for Professional Studies/
Tenured College Professor
Kopilica 5
21 000 Split
Phone: +385 (0) 917270300
E-mail address: dobuljan@oss.unist.hr

DEVELOPMENT OF TOURIST OFFERS THROUGH EUROPEAN FINANCING OF THE NON-PROFIT SECTOR

RAZVOJ TURISTIČKE PONUDE KROZ EUROPSKO FINANCIRANJE NEPROFITNOG SEKTORA

ABSTRACT

Tourism as one of the main bearers of economic prosperity in the Republic of Croatia faces many challenges. The development of new products and services is a necessity in the competitive circumstances of the functioning of Croatian tourism in European and global frameworks. Possibilities of funding certainly exist, but some of them are underused. An example is the indirect financing of tourism innovations through European funding sources. The paper deals with the possibilities of this type of financing. An example of good practice of the non-profit organization MI - Split in withdrawing funds from Cross-Border Programme Croatia-Montenegro 2012-2013 under the Instrument for Pre-Accession Assistance (IPA), Component II, will be presented, through the project "Open up borders for adventure and new travel opportunities" which results contribute to the creation and development of the touristic offer.

Key words: *tourism, European funding sources, non-profit sector.*

SAŽETAK

Turizam kao jedan od glavnih nositelja gospodarskog prosperitete Republike Hrvatske susreće se s mnogim izazovima. Razvoj novih proizvoda i usluga predstavlja nužnost u kompetitivnim okolnostima funkcioniranja hrvatskog turizma u europskim i globalnim okvirima. Mogućnosti financiranja svakako postoje, ali se neke od njih nedovoljno eksploatiraju. Primjer je indirektno financiranje inovacija u turizmu kroz europske izvore financiranja. U radu će se analizirati mogućnosti ove vrste financiranja. Prikazati će se primjer dobre prakse neprofitne udruge MI - Split u povlačenju sredstava iz prekograničnog programa za Hrvatsku i Crnu Goru 2012-2013, IPA komponenta II, a kroz projekt „Otvorite granice za pustolovine i nove mogućnosti putovanja" čiji rezultati doprinose kreiranju i razvoju turističke ponude.

Ključne riječi: *turizam, europski izvori financiranja, neprofitni sektor.*

1. The role of tourism in national economy

Tourism is one of the major social and economic phenomena of modern times (Sharply and Telfer, 2004, 11). Over the past six decades, tourism has experienced continued expansion and diversification, to become one of the largest and fastest-growing economic sectors in the world (UNWTO, 2017, 2). Although its social impact cannot be ignored, tourism is frequently justified on the basis of its potential contribution to economic development. It is often emphasised that tourism can help to eliminate the widening economic gap between developed and less developed countries and regions and to ensure the steady acceleration on economic and social development, particularly in developing countries (Mihalič, 2004, 81).

The contribution of inbound tourism to a country's economy is often assessed by its effect on the gross domestic product, employment and total foreign exchange earnings (Nowak et al., 2007, 516). For a long time, earning of foreign currencies was considered to be the main benefit of international tourism. For many developing countries earning of foreign currencies has a vital significance and tourism is a valuable source of the foreign currencies income that they need to finance necessary imports. The relative importance of tourism with respect to foreign currencies is far important for developed countries (Vanhove, 2012, 232).

The impact of tourism on the gross domestic product is most often analysed through the potential of tourism to stimulate economic growth. Inbound tourism is recognized to have a positive effect on the increase of long-run economic growth through different channels. First, tourism is a significant foreign exchange earner, allowing to pay for imported capital goods or basic inputs used in the production process (Schubert and Brida, 2009, 3). Second, tourism plays an important role in spurring investments in new infrastructure and competition between local firms and firms in other touristic countries. Third, strengthening international competition will stimulate economic growth through more efficient management, higher levels of accumulation and efficiency of tourism resources, and efficient investment and accumulation of human capital (Cortés-Jiménez et al., 2009, 2). As a result of increased local population employment, which is a direct consequence of tourism development, living standard of the local population will increase, boosting personal consumption to further enhancement of economic growth (Narayan et al., 2013, 6). Therefore, it emphasizes that tourism, apart from direct contribution, generates multiplier effects and contributes to the development of other sectors in the economy (such as construction, transportation, textile industry, agriculture and forestry etc.) (Gokovali and Bahar, 2006, 5). Tourism causes positive effect on exploitation of scale economy in national companies. Also, it is an important factor of diffusion of technical knowledge, stimulation of research and development, and accumulation and development of human capital.

On the other hand, many authors suggest that income-generating employment is one of the most important advantages of tourism. It is often indicated that tourism generates the largest number of jobs on a global level although the data showing the contribution of tourism to employment among countries is significantly different. The contribution of tourism to employment and development varies depending on the characteristics, and what is usually taken into consideration is the level of general development and the relative importance of tourism in the national economy. The theory generally emphasizes that in less developed countries, the main contribution of tourism is reflected in the increase of employability of less skilled workers and in the increase of income for small entrepreneurs and artisans that is generated from tourism. The new jobs that tourism generates, in the developing country, helps to harmonize economic opportunities and keeps residents in rural areas and prevents their relocation to overcrowded cities (Mihalič, 2004, 103).

1.1. The economic impact of tourism

It is important to investigate the economic impact of tourism in order to determine whether tourism in general has sufficient strength to set off positive effects that will increase economic growth. On the global level, in 2016, 1.235 million international tourist arrivals were realized, which is 46 million more than in the previous year and represents an increase of 3,9%. The year 2016 represents the seventh consecutive year of sustained growth in international tourism, with arrivals increasing by 4% or more every year. (UNWTO, 2017). It is notable that all the regions in the world, in this observed period, do not show the same dynamics of growth in number tourist arrivals, which is presented in Table 1. UNWTO pointed out that demand for international tourism followed the positive trend in relation to previous years, with many destinations reporting excellent results, while only few failed because they faced some security incidents. A certain redirection of tourism flows was observed. Some destinations have changed trends due to stronger travel demand, increased connectivity and more affordable air transportation (UNWTO, 2017).

Table 1 *International tourist arrivals and tourism receipts in 2016*

Region	International tourist arrivals		International tourism receipts	
	Million (€)	Market share (%)	Billion (€)	Market share (%)
World	1.235	100,0	1.102	100,0
Europe	616,2	49,9	404,1	36,7
- European Union	500,1	40,5	340,2	30,9
Asia and the Pacific	308,4	25,0	331,3	30,1
Americas	199,3	16,1	283,0	25,7
Africa	57,8	4,7	31,4	2,8
Middle East	53,6	4,3	52,0	4,7

Source: adapted from UNWTO Tourism Highlights, 2017 Edition

International tourism receipts grew by 2,6% (taking into account exchange rate fluctuations and inflation) with total earnings in the destinations estimated at 1.102 billion euros worldwide in 2016. Growth in receipts is computed in real terms in order to avoid the distortions caused by exchange rate shifts between local currencies and the US dollar, although such fluctuations were fairly contained in 2016 (the average US dollar-euro rate hardly varied from 2015) (UNWTO, 2017).

From the data presented in Table 1, it can be observed that in 2016, Europe generated nearly half of the world's international tourist arrivals and realized more than 35% of total tourism receipts from international tourism in the world (UNWTO, 2017). Data referring to international tourist arrivals and tourism receipts confirm that Europe is the most visited touristic region in the world. However, within Europe there are significant differences in the dynamics and total amount of international tourist arrivals.

According to data obtained through the framework of a study on the economic impact of tourism in regional and national economies, conducted by the World Travel and Tourism Councils in co-operation with Oxford Economic Forecasting, define that tourism in its "narrow" sense (traditional providers of tourist services - hotels, catering facilities for beverage and beverage services, travel agencies, car rental and airlines that deliver goods and services directly to visitors) contributes with 3,5% in the gross domestic product of Europe in 2016 (WTTC, 2017). The direct contribution of tourism to gross domestic product varies among the European countries, ranging from 1,32% in Romania, 1,68% in Luxembourg to 14,08% of total gross domestic product in Malta. Due to the extremely strong relationships that tourism has with many economic sectors and a proven multiplier effect of tourism on the economy, it is also important, besides the direct contribution of tourism to gross domestic product, to include data on the indirect and induced impact of tourism on gross domestic product. When the related sectors are taken into account, the total contribution of tourism to the gross domestic product in the Europe was 9,9% in 2016, ranging from 4,5% in Poland, 5,2% in Romania to 24,7% in Croatia and 26,7% in Malta (WTTC, 2017).

With reference to the aspect of tourism contribution to increasing employment, data show that in 2016, in the activities directly related to tourism (catering, tourist intermediation, aviation and other passenger transport), 13,9 million people were employed in Europe, which represents 3,7% of the total number of employees (WTTC, 2017). If the total contribution of tourism to employment is observed, in 2016, the total contribution of tourism to employment in the Europe was 9,7%. There are differences in the contribution of tourism to employment among different countries in Europe. The lowest share of the population employed in activities directly related to tourism in Europe is Lithuania (1.96%), whereas the highest share is in Croatia (10.02%) and Malta (15,5%). The total contribution of tourism in employment varies from 4,45% in Poland, 5,14% in Lithuania to 22,02% in Cyprus, 23,37% in Croatia, 23,04% in Greece, up to 27,78% in Malta (WTTC, 2017).

1.2. The economic impact of tourism on the national level

In order to define the trends of employment in tourism on the national level, we have explored data for the last ten years. The findings are presented in Table 2.

***Table 2** The economic impact of tourism in Croatia*

	Direct contrib.to GDP	Total contrib. to GDP	Direct contribution to employment		Total contribution to employment		Capital investment	
	% of GDP	% of GDP	000 of jobs	% of emplo-yment	000 of jobs	% of employ-yment	bn KN	% of all invest-ment
2006	9,62	24,86	146,895	9,97	376,974	25,59	15,1509	16,17
2007	9,59	24,38	150,019	9,81	379,805	24,83	14,1607	14,25
2008	10,05	25,00	160,538	10,18	398,379	25,26	12,8123	12,08
2009	9,15	22,54	142,298	9,18	350,264	22,59	9,12512	10,33
2010	8,41	20,37	121,994	8,35	295,868	20,25	7,56733	10,33
2011	9,14	21,73	130,511	8,98	311,328	21,42	7,20622	10,33
2012	8,82	20,75	121,631	8,58	287,797	20,29	6,7558	10,27
2013	9,49	22,17	127,734	9,14	300,681	21,51	6,76881	10,27
2014	9,90	22,89	129,555	9,43	302,456	22,03	6,60048	10,25
2015	10,28	23,63	134,929	9,70	313,53	22,55	7,05966	10,76
2016	10,73	24,69	137,866	10,03	321,288	23,37	7,44072	10,99

Source: adapted from WTTC, data gateway, available at: https://www.wttc.org/datagateway/ (retrieved: 16.03.2018)

Tourism is extremely important for Croatia's economic development, because according to WTTC data almost a quarter of Croatian GDP comes from the tourism industry. Specifically, although the direct contribution of tourism to GDP amounted to 10.7% in 2016 (if indirect and induced contribution is taken into account), the overall tourism contribution to GDP is estimated at 24.7% in 2016, which is more than twice of the world average (10.2%). In the same year, 138,000 persons were directly employed in the tourism sector, and (if indirect and induced contribution is taken into account) 321.500 is the total number of employees in the tourism sector, which makes 23,4% of the total employment and more than twice of the world average (9,6%).

2. Financial tools for EU funds as possible source of financial support for tourism

Financial crisis's impact on rational governing of limited financial sources is not to be underestimated. The importance of exploiting all available sources of financing for all segments of society has become imperative. One of the sources available for financing different projects and activities for different groups of beneficiaries is available through EU funds. (Rogošić, Buljan Barbača, 2013, 136) With reference to data from Table 2 that show how important tourism is for national economy, we should try to explore what the possibilities of financing the development of tourism from EU funds in prospective 2014-2020 are.

Table 3 *Most relevant programmes for the tourism sector in the EU*

<table>
<tr><th>Area</th><th>MFF 2007-2013</th><th>MFF 2014-2020</th></tr>
<tr><td>Cohesion</td><td>Structural funds:
1. European Cohesion Fund
2. European Social Fund
3. European Regional
4. Development Fund
o INTERREG IVC (European Territorial Co-operation)</td><td>Structural funds:
1. European Cohesion Fund
2. European Social Fund
3. European Regional
4. Development Fund
o European Territorial Co-operation</td></tr>
<tr><td>Environment, Agriculture & Marine and Fisheries Policy</td><td>1. Seventh Framework Programme for Research
2. Competitiveness and Innovation Framework Programme:
o Entrepreneurship and Innovation Programme
o Information Communication Technologies Policy Support Programme
o Intelligent Energy Europe Programme</td><td>1. LIFE
2. European Agriculture Fund for Rural Development
3. European Maritime and Fisheries Fund</td></tr>
<tr><td>Research, Innovation and Competitiveness</td><td>1. Seventh Framework Programme for Research
2. Competitiveness and Innovation Framework Programme:
o Entrepreneurship and Innovation Programme
o Information Communication Technologies Policy Support Programme
o Intelligent Energy Europe Programme</td><td>1. Horizon 2020 (Framework Programme for Research and Innovation
2. COSME (Programme for the Competitiveness of Enterprises and SMEs)</td></tr>
<tr><td>Culture and Education</td><td>1. European Culture Programme
2. Lifelong Learning Programme
(Erasmus, Leonardo da Vinci, Comenius and Grundtvig)
3. Erasmus Mundus
4. Tempus
5. Alfa
6. Edulink
7. Programme for cooperation with industrialised countries</td><td>1. Creative Europe Programme
2. Erasmus for All Programme</td></tr>
<tr><td>Employment</td><td>1. PROGRESS
2. European PROGRESS Microfinance Facility</td><td>1. EaSI (EU programme for Employment and Social Innovation)
o PROGRESS (Programme for Employment and Social Solidarity)
o EURES (European Employment Services)
o PROGRESS Microfinance Facility</td></tr>
</table>

Source: European Commission, Guide on EU Funding for the Tourism sector 2014-2020, http://ec.europa.eu/enterprise/sectors/tourism/index_en.htm (retrieved: 13.03.2018)

Various activities and initiatives can be funded from this source including any type of useful transaction or investment for the development of legitimate (SMEs) activities, everywhere in the EU, including possibility of more countries getting funded in the same time through cross-border projects. Such activities may, for instance, focus on:

- Travel infrastructures (regional airports, ports, …)
- Energy efficiency of hotels and tourism resorts

- Revitalization of brown fields for recreational purposes
- Tourism SME financing agreements
- Setting up "Investment platforms" (IPs) dedicated to tourism (EC, 2016,6)

In addition to options presented in Table 3., it is necessary to underline that all legal persons are eligible for applying for these funds: any public body, company and in particular SMEs, research organizations, universities, non-governmental organizations, tourism clusters.

In Chapter 3. , the project financed from the EU sources that contributed to the development of tourism product and has been governed by non-governmental organization (NGO) “MI” will be presented.

3. The project

Keeping in mind the important role that tourism has in the Croatian national economy and trying to connect the profit and non-profit sector to ensure the financial sustainability of non-profit sector projects, NGO "MI" – Split started the project „Open up borders for adventure and new travel opportunities.“ The project was designed for organizations operating in the field of tourism, non-profit civil society organizations and representatives of local administrative units, and implemented under the EU program on cross-border IPA component II, the Program on Cross-Border Cooperation Croatia – Montenegro 2007 – 2013. The project was managed by the EU Delegation in Montenegro and the Agency for Regional Development of the Republic of Croatia, implemented in cooperation with: NGO "MI" - Split, the Association for Civil Society Development “Bonsai”, the Association of Croatian Travel Agencies from Croatia, the Association for Democratic Prosperity "ZID" and the Municipality of Herceg Novi from Montenegro.

The anticipated duration of the project was 18 months (from April 2016 to October 2017) and the total value of the project was 294.966,9 EURO, out of which 112.873,48 EURO were intended for Croatian users and 136.838,42 EURO were intended for Montenegrin users (NGO "MI" – Split, 2017)

The overall objective of the project was to contribute to the promotion of Croatian and Montenegrin tourist potentials as an integral tourist destination, improving the environment for the establishment of new tourism products based on sustainable development of the program area and improvement of social connections in the cross-border area. On the other hand, the specific objective of the project was to strengthen the cooperation between the public, profit and non-profit sector by developing voluntourism as an innovative and distinctive tourism product on joint tourism territory of Croatian-Montenegrin border areas.

Within the project activities, two workshops were held on volunteering management and social entrepreneurship, as well as development of voluntourism products. Also, the first Croatian Conference on Voluntourism was held on June 2nd 2017 in Dubrovnik, where the voluntourism innovations, best practices, as well as examples and ideas that resulted from the project's activities, were presented. Since one of the objectives of the project was to develop at least two pilot voluntourism products/activities in the cross-border area, three such examples were presented at the conference: Frano Vlašić (Luški puti j.d.o.o.) and Leo Žanetić (Otočki sabor) presented their idea of including tourists in volunteering efforts on the island of Korčula during the summer season, while Julija Milanović from the Animal Welfare Association in Cetinje and Željko Starčević from the Orjen Protection Agency in Herceg Novi presented ideas for voluntourism projects in Montenegro.

4. Conclusions and recommendations

Innovations, development of new products and services are key factors that will affect sustainability of Croatian tourism. Since national economy shows such extreme dependence on tourism income, these issues are becoming increasingly important.

Within the EU funds in financial prospective 2014-2020, there are a lot of opportunities for financing new projects and investments. An important conclusion to be drawn from the project presented in Chapter 3. is that for achievement of great results, all legal persons are invited to participate. For obtaining even longer-term results, the idea of branding a wider region and connecting more intensively with neighbour countries is another dimension of the presented project that needs to be underlined as added value.

REFERENCES

Cortés-Jiménez, I., Pulina, M., Riera Prunera, C., Artis, M. (2009): ***Tourism and Exports as a means of Growth, Research Institute of Applied Economics***, Working papers 2009/2010

Gokovali, U., Bahar, O. (2006): ***Contribution of Tourism to Economic Growth: A Panel Dana Approach***, Anatolia: An International Journal of Tourism and Hospitality Research, Vol. 17, No. 2

Mihalič, T. (2004): ***Tourism and Economic Development Issues***, u: Sharpley, R., Telfer, D. J.: Tourism and Development, Concepts and Issues, Aspects of Tourism, Chanel View Publications

Narayan, P., Sharma, S., Bannigidadmath, D. (2013): ***Does Tourism Predict Macroeconomic Performance in Pacific Island Countries?***, Daekin University, Faculty of Business and Low, Financial Econometric Series, SWP 2013-03

Nowak, J. J., Sahli, M., Cortés-Jiménez, I. (2007): ***Tourism, capital goods import and economic growth: theory and evidence for Spain***, Tourism Economics, 13 (4), pp. 515 – 536

Rogošić, A., Buljan Barbača, D. (2013). ***How to Increase Possibility of Withdrawing the Financial Means from EU funds***, Economy Transdisciplinarity Cognition, Vol. 16, Issue 1/2013, pp. 136-143.

Schubert, S. F., Brida, J. G. (2009): ***A Dynamic Model of Economic Growth in a Small Tourism Driven Economy***, Munich Personal RePEc Archive, MPRA Paper No. 16737

Sharpley, R., Telfer, D. J. (2004): ***Tourism and Development, Concepts and Issues***, Aspects of Tourism, Chanel View Publications

Vanhove, N. (2012): ***The Economics of Tourism Destinations***, 2nd Edition, Routledge Taylor & Francis Group, London

European Commission, ***Guide on EU Funding for the Tourism sector 2014-2020***, http://ec.europa.eu/enterprise/sectors/tourism/index_en.htm

Udruga "MI" – Split (2017) ***Programi, razvojni – provedeno (arhiva)***, available at: https://www.udruga-mi.hr/programi/razvojni/provedeni/cbc-ipa-ii-2012-2013-cro-mne (acceded: 15.03.2018.)

World Tourism Organization (UNWTO) (2017): ***Tourism Highlights***, 2017 Edition, available at: https://www.e-unwto.org/doi/pdf/10.18111/9789284419029 (acceded: 01.03.2018.)

World Travel & Tourism Council (WTTC) (2017), The Authority on World Travel & Tourism, ***Travel & Tourism Economic Impact 2017, Regional Report, Europe LCU***, available at: https://www.wttc.org/-/media/files/reports/economic-impact-research/regions-2017/europelcu2017.pdf (acceded: 01.03.2018.)

Mihaela Mikić, PhD
Faculty of Economics and Business Zagreb
Trg J.F. Kennedyja 6
E-mail address: mmikic@efzg.hr

Tin Horvatinović, MSc
Faculty of Economics and Business Zagreb
Trg J.F. Kennedyja 6
E-mail address: thorvatinovic@net.efzg.hr

Ivan Turčić, MSc
Faculty of Economics and Business Zagreb
Trg J.F. Kennedyja 6
E-mail address: iturcic@efzg.hr

THE ROLE OF REGIONAL ECONOMIC ENVIRONMENT IN THE DEVELOPMENT OF ENTREPRENEURSHIP IN CROATIA

ULOGA REGIONALNOG EKONOMSKOG OKRUŽENJA ZA RAZVOJ PODUZETNIŠTVA U REPUBLICI HRVATSKOJ

ABSTRACT

Entrepreneurship as an activity has many social impacts, but most often an emphasis is made on its impact on a countries growth and development. Entrepreneurial economy can be expressed through numerous economic variables such as the increase of production and employment. It is because of the important role that entrepreneurship has in the development of a country, an emphasis is made on determining ways in which its development can be stimulated. Besides the national level, the results of entrepreneurial activities can also be viewed on the regional level. Regional analysis of entrepreneurship includes defining the impact of entrepreneurship on the growth and development of regions and identifying regional factors that impact entrepreneurial activities inside the region. There is a problem of defining entrepreneurship, mainly because of its inherent multidimensionality. A large number of researchers in regional analysis use an entrepreneurial event, in other words the act of forming a firm, as an approximation of regional entrepreneurial activity.

The purpose of this article is to explain the role of the regional environment in the development of entrepreneurship in the Republic of Croatia, respectively identifying the role of the region in explaining the different rates of firm formation. In defining a region NUTS 3 classification was used. Economic, institutional and social regional indicators are noticed in the literature to have an impact on entrepreneurship. In this article only economic factors were considered and a panel data analysis was conducted with a goal of identifying significant regional indicators in explaining the level of entrepreneurship. This article is an additional step in understanding Croatian entrepreneurship at the regional level because the literature on this topic is scarce and the results can be used by state bodies during the process of forming regional strategies of development in the Republic of Croatia.

Key words: *Entrepreneurship, Regional analysis, Start-up formation, Economic development, Croatia.*

SAŽETAK

Poduzetništvo kao djelatnost ostvaruje mnogobrojne društvene utjecaje, no najčešće se ističe njegov utjecaj na gospodarski rast i razvoj zemlje. Poduzetnička ekonomija može se iskazati mnogobrojnim ekonomskim varijablama kao što su porast proizvodnje i broja zaposlenih. Upravo zbog uočene važnosti poduzetništva u ekonomskom razvoju zemlje, poseban naglasak stavlja se na utvrđivanje načina na koje se može potaknuti njegov razvoj u pojedinim zemljama. Osim na nacionalnoj razini, rezultati poduzetničke aktivnosti mogu se sagledati i analizirati i na regionalnoj razini. Regionalna analiza poduzetništva uključuje definiranje utjecaja poduzetništva na ekonomski rast i razvoj regije te na identificiranje regionalnih faktora koji utječu na poduzetničke aktivnosti unutar regije. Prilikom provođenja analize javlja se i problem definiranja poduzetništva, prvenstveno zbog inherentne multidimenzionalnosti pojma poduzetništva. Veliki broj radova koji se bavi regionalnom analizom poduzetništva uzima poduzetnički događaj, odnosno čin osnivanja poduzeća, kao aproksimaciju regionalne poduzetničke aktivnosti.

Svrha ovog rada je pojasniti ulogu regionalnog okruženja u razvoju poduzetništva u Republici Hrvatskoj, odnosno identificiranje uloge regija u Republici Hrvatskoj radi objašnjavanja varijacija stopa novoosnovanih poduzeća. Za pojam regije uzeta je NUTS 3 klasifikacija. U literaturi uočeni su različiti ekonomski, institucionalni i društveni regionalni pokazatelji koji imaju utjecaj na razvoj poduzetništva. U ovom radu uzeti su isključivo ekonomski pokazatelji te je provedena panel analiza s ciljem utvrđivanja značajnih pokazatelja razvijenosti regija u objašnjavanju razine poduzetništva. Ovo istraživanje je dodatni korak u razumijevanju hrvatskog poduzetništva na regionalnoj razini budući da ne postoji veliki broj istraživanja na tu temu te dobiveni rezultati mogu poslužiti kao podloga državnim tijelima prilikom oblikovanja strategija razvoja regija u Republici Hrvatskoj.

Ključne riječi: *Poduzetništvo, Regionalna analiza, Osnivanje poduzeća, Ekonomski razvoj, Hrvatska.*

1. Introduction

One of the most famous lines that best summarizes the study of entrepreneurship and economic growth is that: “Entrepreneurship and innovation are at the heart of national advantage” (Porter, 1990). The reasons for this are numerous and can be found both on theoretical grounds and empirical findings. Acknowledging the importance of theoretical models (Romer, 1990), the focus in this article will be on the empirical findings. It has been found that an increase in entrepreneurship will lead to lower rates of unemployment (Audretsch&Thurik, 1999) and growth of GDP per capita (Wong, Ho&Autio, 2005). In other words, a pure accumulation of resources by itself does not generate economic growth because it takes an innovative entrepreneur to transform those resources into profitable actions (Henrekson& Rosenberg, 2001).

Since entrepreneurship is a regional event (Feldman, 2001), numerous studies looked at the impact of entrepreneurship on the regional level and found similar results (e. g. Audretsch, Bönte&Keilbach, 2008). Given the importance that entrepreneurship has on economic growth and social aspects, in example on quality of life (Baumol, Litan& Schramm, 2009), an important question arises, namely what environment fosters growth of entrepreneurship on the regional level. The aim of this paper is to answer that fundamental question in the case of Croatia.

2. Regional environment that promotes entrepreneurship

The role of the economic environment in the fostering of entrepreneurship has been extensively studied from several different aspects. One of the foundations of exploring the impact of the business environment on entrepreneurs is the fact that it has an important role in the process of perceiving business opportunities by entrepreneurs (Kirzner, 1983). Although studies look at different conditions that affect entrepreneurial activity, the majority of studies define entrepreneurship as the act of firm formation, in other words they focus on birth rates of firms (Müller, 2016). In this article we also defined entrepreneurship in terms of start-up rate in each region in Croatia and the focus is on the economic environment of firms. By economic environment we mean external influences of firms that are not social, for example social capital, or institutional, for example local government support policies.

The literature on the study of entrepreneurship in the regional context in Croatia is scarce. For instance, (Botrić, 2012) analysed the differences of self-employment on the county level in Croatia using Labour Force Survey data and found that public sector employment, levels of education and some demographic characteristics where significant in explaining different levels of self-employment. In addition, (Korent, Vuković&Brčić, 2015) showed that, among other things, there was a correlation between entrepreneurial activity and regional development in Croatia. They defined entrepreneurial activity as a number of entrepreneurs per 100 residents. One of our goals is to expand the understanding on this topic in Croatia and following the literature we used the births of firms as an indicator of entrepreneurial activity so we can contribute to the already mentioned findings of other authors.

One of the indicators that were found to influence entrepreneurship, on the regional level, is the population density which is used as a measure of market size and/or as a measure of market access. Even though some researchers have found that rural areas have higher start-up rates (Tokila&Tervo, 2011), a general conclusion can be made that the population density has a positive impact on firm birth rates (Fotopoulos & Spence, 1999; Audretsch&Keilbach, 2007; Davidsson, Lindmark&Olofsson, 1994; Capelleras,Contin-Pilart, Larraza-Kintana& Martin-Sanchez, 2015; Ciccone& Hall, 1996). Why higher population density influences higher firm formation rates and growth aspirations is not fully understood because its influence can be made through different channels (Falck& Fritsch, 2007). It can have a positive influence because densely populated areas have more developed infrastructures (Audretsch& Fritsch, 1994), knowledge spillovers (Krugman, 1991), higher speeds of idea transfers, (Ciccone& Hall, 1996), higher levels of innovation (Fritsch, 2000), entrepreneurs with a lower fear of failure (Bosma&Schutjens, 2011) and/or greater human capital (Capelleras et. al., 2015). Regardless of the underlying theoretical foundation, for the purposes of this article, there are solid empirical findings on the basis of which higher population density should lead to higher levels of firm formation in Croatia on the regional level.

The next indicator that affects firm formation is the availability of finance. The results of these studies are vaguer than of those that focus on population density and the overall number of studies, with regard to the regional context, are smaller than for population density. In this article the focus is on the banking sector because the Croatian financial system is dominated by banks. In the literature a consensus has not been reached with regard to the effect of the banking sector on firm formation (Backman, 2015). While there are theoretical models (Gries&Naudé, 2009) and empirical findings (Rogers, 2012) that conclude that the firm formation will be smaller in markets with higher bank concentration, more empirical studies find the opposite relationship (Backman, 2015; Naudé,Gries, Wood&Meintjies,2008; Thakor, 1996). Given the empirical evidence we can expect that the higher bank concentration will lead to a higher number of firm births in Croatia on the regional level.

Another regional influence on start-up rates, that is studied in the literature, is the degree of industry specialization of a region. Similarly to bank concentration, studies have found that industry specialization can have a positive (Braunerhjelm&Borgman, 2014) or negative (Audretsch, Falck&Heblich, 2009) effect on firm births. It has been argued that more regions with more diverse industries give entrepreneurs more opportunities (Gudgin, 1978), but on the other hand more specialized regions enable the flow of strategic information (Garofoli, 2014). An additional problem is that a variety of measures are used to quantify industry specialization. Taken all into account, there are good reasons to expect a significant relationship between firm formation and industry specialization, but with regards to the expected sign (whether this relation is positive or negative) a preliminary conclusion of what to expect cannot be reached.

The last variable that is considered in our model is the rate of unemployment. This indicator is probably the most debated amongst all of the above mentioned in terms of the effect it has on firm formation rates. There are numerous studies that find this relation to positive (Campbell, 1996; Armington&Acs, 2002) and others that found the opposite (Garofoli, 1994; Audretsch& Fritsch, 1994). From these studies we can expect that, as with industry specialization, a significant connection between the rate of unemployment and births of firms even though we cannot preliminary conclude whether is it a positive or negative relation and that the mentioned studies in Croatia have found a negative (Korent*et al*., 2015) and no significant effect (Botrić, 2012).

3. Data and methodology

Panel data analysis was used to determine whether or not there exists a significant causal relationship, on the county level, between the birth rate of firms and the population density, bank concentration, industry specialization and the rate of unemployment. Logarithmic values of all variables were taken, the data were collected from Eurostat, Croatian bureau of statistics and the Croatian national bank data bases. Panel data was balanced and the statistical analysis was carried out in Eviews 8. The selected period was from 2011 to 2015 and annual data were used for the NUTS 3 classification of counties. Because the data for the bank concentration were jointly reported for the city of Zagreb and Zagrebačka county, all the data for other variables were merged as well so the analysis was made on 20 counties instead of 21, which is the original number in the NUTS 3 classification. Birth rates of firms, population density, bank concentration and the rate of unemployment data were available, but there was no reported official measure of industry specialization. In order to quantify industry specialization, the entropy index was used. The formula used to calculate the entropy index for a county is:

$$Entropy = \sum_{i=1}^{N} \frac{E_i}{E_t} * \ln\left(\frac{E_t}{E_i}\right) \qquad (1)$$

where$N$ is the number of sectors in the county, $E_i$is total employment in the sector of the county and $E_t$is total employment in the county. The lower bound of the entropy index is 0 (meaning perfect specialization) and the upper bound is ln(N) (meaning perfect diversity). Sectors in a county were based on the statistical classification of economic activities in the European Community (NACE 2. Rev).

Once the variables were chosen and the data were collected, the Perron Fisher unit root test was used to test for the stationarity of the dependent variable and the results are shown in Table 1.

***Table 1** Perron Fisher unit root test results*

PP Fisher unit root test	Statistic
PP Fisher Chi-square	117,234*** (0,000)

Note: Parameter significant at the level of significance: ***1%. Probability in parenthesis.

Since we can reject the null hypothesis, which says that a unit root exists, at all levels of significance and conclude that the process is stationary, next we test for the appropriate panel model between pooled regression model, fixed and random effects. The F-test is used to decide which model is more appropriate, the pooled regression model or fixed effects model. The results of the F-test are displayed in Table 2.

***Table 2** TheF-test results*

Effects Test	Statistic
Cross-section F	4,086*** (0,000)

Note: Parameter significant at the level of significance: ***1%. Probability in parenthesis.

Since we can reject the null hypothesis of the F-test on all levels of significance, the fixed effects model is more suitable for our dataset than the pooled regression model. Next, the Hausman test was carried out to test for the efficiency of the fixed effects estimator. The results are presented in Table 3.

Table 3 *The Hausman test results*

Hausman Test	Chi-Sq. Statistic
Cross-section random	6,767 (0,148)

Note: Probability in parenthesis.

On the basis of the Hausman test we can conclude that fixed effects estimator is inefficient, or alternatively that the random effects estimator is efficient, because we can reject the null hypothesis at 5% level of significance. Finally, to justify the use of the random effects model the LM Breusch-Pagan test is used. The results are displayed in Table 4.

Table 4 *The Lagrange Multiplier test results*

LM test	Cross-section one-sided
Breusch-Pagan	20,496*** (0,000)

Note: Parameter significant at the level of significance: ***1%. Probability in parenthesis.

At all levels of significance we can reject the null hypothesis, which states that variances across entities is zero, so we can conclude that the random effects model is the most appropriate model for our analysis.

4. Results

The results of the panel random effects model on logarithmic values of all the variables are shown in Table 5. FIRMPC is the number of firm births per capita, POPDEN is the population density, BANKCON represents the number of bank branches per capita, ENTROPY represents the entropy index and UNEMP is the unemployment rate. The control variables are the gross domestic product per capita (GDPPC) and the percentage of women in the population (WOMENPO).

Table 5 *Panel model with random effects (dependent variable: FIRMPC)*

	Model 1	Model 2	Model 3	Model 4
Constant	-3,460*** (0,762)	-3,491*** (0,749)	12,919 (11,803)	8,567 (13,084)
POPDEN	0,154** (0,073)	0,208** (0,082)	0,264** (0,108)	0,271** (0,108)
BANKCON	0,029 (0,159)	0,145 (0,180)	0,047 (0,162)	0,118 (0,187)
ENTROPY	2,978*** (0,802)	3,019*** (0,788)	3,348*** (0,857)	3,282*** (0,859)
UNEMP	-0,333** (0,154)	-0,285* (0,157)	-0,279* (0,161)	-0,259 (0,163)
GDPPC	-	0,057 (0,042)	-	0,037 (0,049)
WOMENPO	-	-	-9,778 (7,028)	-7,196 (7,785)
R^2	0,291	0,312	0,301	0,307
N	100	100	100	100

Note: Parameter significant at the level of significance: ***1%, **5%, *10%. Standard errors in parenthesis.

The population density is statistically significant at 5% significance level in all four models and the relationship is positive. This result is in line with the literature and authors' expectations. Similarly, the entropy index is also significant in all four models and this relation is positive, but the entropy index is significant on all levels. This result shows that the number of firm birth per capita is positively associated with industry diversity, not industry specialization. One of the explanations for this relation, as mentioned before, is that Croatian entrepreneurs benefit from more business opportunities which encourages them to start their business.
The unemployment rate is found to be significant at 5% significance level in the first model and at 10% in the second and third model. There is also a negative impact of the unemployment rate on the birth of firms per capita, which confirms the relationship found in (Korent*et al*., 2015). The last variable that was considered was the number of bank branches per capita and we found no significant relationship with the number of firm births per capita in neither of four estimated models.

5. Conclusion

It has been shown that entrepreneurship is one of the key factors of economic growth of countries and of the well-being of its citizens. With that in mind, there has been an emphasis in determining which factors encourage entrepreneurs to take action, improve their abilities and seize market opportunities. This paper, and the mentioned literature, focused on the role of regional environment on entrepreneurship. In the majority of these studies, including our, entrepreneurship is defined as an action of firm formation. In this paper the focus was on four factors that were found to have an influence on start-up rates.
We found a significant positive impact of birth of firms per capita on the county level with population density. There are numerous reasons, as was mentioned in the second section of this article, why higher population density should lead to higher number of firm births. Whether more developed infrastructures, knowledge spillovers, higher speeds of idea transfers, higher levels of innovation and/or greater human capital influence births of firms could be the focus of future studies. With regard to industry specialization, we found that the diverse industry structures cause higher firm formation, or in other words it has a positive impact. One of the possible explanations for this finding is that more diverse industries give entrepreneurs more business opportunities.
The unemployment rate was also found to be significant, but the relation with firm births was negative and in one model it was not significant. This could imply that employed persons have stronger intentions to start a business than unemployed persons and/or that the decline of aggregate demand influences lower firm formation rates. Bank concentration was not significant. The reason for this finding could be that banks are more inclined to give consumer credits than to finance businesses because consumer credits are less risky than those given to entrepreneurs.
One of the shortcomings of this paper is a relatively short time component of the panel model, which can be corrected when more data will be available. Another issue is that of defining availability of financing in terms of bank concentration, which was expressed as number of branches per capita. Both, number of branches per capita as an indicator of bank concentration and bank concentration as an indicator of the availability of financing, could be improved in future studies.
The implications of these results on government and local government policies are numerous. The main conclusion that policymakers can make from these results is that they can improve the rates of firm formation because, with an adequate strategy, they can influence the factors that were found to be significant. These policies need to be long term because of the nature of the mentioned factors which cannot be changed in short periods.

REFERENCES

Armington C. &Acs, Z. (2002): ***The Determinants of Regional Variation in New Firm Formation***, Regional Studies, Vol. 36, No. 1, pp. 33-45.

Audretsch, D. & Fritsch, M. (1994): ***The Geography of Firm Births in Germany***, Regional Studies, Vol. 28, No. 4, pp. 359-365.

Audretsch, D. &Keilbach, M. (2007): ***The Localization of Entrepreneurship Capital: Evidence from Germany***, Papers in Regional Science, Vol. 86, No. 3, pp. 351-365.

Audretsch, D. &Thurik, A. (1999): ***Capitalism and Democracy in the 21st Century: From the Managed to the Entrepreneurial Economy***, Journal of Evolutionary Economics, Vol. 10, No. 1, pp. 17-34.

Audretsch, D., Bönte, W. &Keilbach, M. (2008): ***Entrepreneurship capital and its impact on knowledge diffusion and economic performance***, Journal of Business Venturing, Vol. 23, No. 6, pp. 687-698.

Audretsch, D., Falck, O. &Heblich, S. (2009): ***Who's got the aces up his sleeve? Functional specialization of cities and entrepreneurship***, The Annals of Regional Science, Vol. 46, No. 3, pp. 621-636.

Backman, M. (2015): ***Banks and new firm formation***, Journal of Small Business and Enterprise Development, Vol. 22, No. 4, pp. 734-761.

Baumol, W., Litan, R. & Schramm, C. (2009): ***Good Capitalism, Bad Capitalism, and the Economics Growth and Prosperity***, Yale University Press, New Haven.

Bosma, N. &Schutjens, V. (2010): ***Understanding regional variation in entrepreneurial activity and entrepreneurial attitude in Europe***, The Annals of Regional Science, Vol. 47, No. 3, pp. 711-742.

Botric, V. (2012): ***Regional Differences in Self-Employment: Evidence from Croatia***, Ekonomskaistrazivanja - Economic Research, Special Issue Vol. 25, No. 1, pp. 243-266.

Braunerhjelm, P. &Borgman, B. (2004): ***Geographical Concentration, Entrepreneurship and Regional Growth: Evidence from Regional Data in Sweden, 1975-99***, Regional Studies, Vol. 38, No. 8, pp. 929-947.

Campbell, C. (1996): ***The effects of state and industry economic conditions on new firm entry***, Journal of Economics and Business, Vol. 48, No. 2, pp. 167-183.

Capelleras J. L., Contin-Pilart, I., Larraza-Kintana, M. & Martin-Sanchez, V. (2015): ***Population density and individual human capital influences on entrepreneurial growth aspirations***, Academy of Management Proceedings, Vol. 2015, No. 1, pp. 14319-14319.

Ciccone, A. & Hall, R. (1996): ***Productivity and the Density of Economic Activity***, American Economic Review, Vol. 86, No. 1, pp. 54-70.

Davidsson, P., Lindmark, L. &Olofsson, C. (1994): ***New Firm Formation and Regional Development in Sweden***, Regional Studies, Vol. 28, No. 4, pp. 395-410.

Feldman, M. (2001): ***The entrepreneurial event revisited: Firm formation in a regional context***, Industrial and Corporate Change, Vol. 10, No. 4, pp. 861-891.

Fotopoulos, G. & Spence, N. (1999): ***Spatial Variations in New Manufacturing Plant Openings: Some Empirical Evidence from Greece***, Regional Studies, Vol. 33, No. 3, pp. 219-229.

Fritsch, M. &Falck, O. (2007): ***New Business Formation by Industry over Space and Time: A Multidimensional Analysis***, Regional Studies, Vol. 41, No. 2, pp. 157-172.

Fritsch, M. (2000): ***Interregional Differences in R&D Activities-An Empirical Investigation***, European Planning Studies, Vol. 8, No. 4, pp. 409-427.

Garofoli, G. (1994): ***New Firm Formation and Regional Development: The Italian Case***, Regional Studies, Vol. 28, No. 4, pp. 381-393.

Gries, T. &Naudé, W. (2009): ***Entrepreneurship and regional economic growth: towards a general theory of start-ups***, Innovation: The European Journal of Social Science Research, Vol. 22, No. 3, pp. 309-328.

Gudgin, G. (1978): ***Industrial Location Processes and Regional Employment Growth***. Saxon House, Farnborough.

Henrekson, M. & Rosenberg, N. (2001): ***Designing Efficient Institutions for Science-Based Entrepreneurship: Lessons from the US and Sweden***, Journal of Technology Transfer,Vol. 26, No.2, pp. 207-231.

Kirzner, I. M. (1983): ***Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship***, University of Chicago Press. Chicago.

Korent, D., Vuković, K. &Brčić, R. (2015): ***Entrepreneurial activity and regional development***, Economic Research - EkonomskaIstraživanja, Vol. 28, No. 1, pp. 939-958.

Krugman, P. (1991): ***Geography and Trade***, MIT Press, Cambridge.

Müller, S. (2016): ***A progress review of entrepreneurship and regional development: What are the remaining gaps?***, European Planning Studies, Vol. 24, No. 6, pp. 1133-1158.

Naudé, W., Gries T., Wood, E. &Meintjies, A. (2008): ***Regional determinants of entrepreneurial start-ups in a developing country***, Entrepreneurship & Regional Development, Vol. 20, No. 2., pp. 111-124.

Porter, M. (1990): ***The competitive advantage of nations***,Free Press, New York.

Rogers, T. (2011): ***Bank market structure and entrepreneurship***, Small Business Economics, Vol. 39, No. 4, pp. 909-920.

Romer, P. (1990): ***Endogenous Technical Change***, Journal of Political Economy, Vol. 98, No. 5, pp. 71-102.

Tokila, A. &Tervo, H. (2011): ***Regional differences in returns to education for entrepreneurs versus wage earners***, Annals of Regional Science, Vol. 47, No. 3, pp. 689-710.

Wong, P. K., Ho, Y. P. &Autio, E. (2005): ***Entrepreneurship, Innovation and Economic Growth: Evidence from GEM data***, Small Business Economics, Vol. 24, No. 3, pp. 335-350.

Mirjana Nedović, Phd., Senior Lecturer
College of Applied Sciences "Lavoslav Ružička" in Vukovar
Županijska 50, 32000 Vukovar
Phone: 091 4446935 Fax: 032 444686
E-mail address: mnedovic@vevu.hr

Ivona Bajić Sabljo, mag. oec., Assistant
Regionalna veletržnica Osijek d.d.
Ulica Jablanova 11, 31000 Osijek
Phone: 098 878871 Fax: 031 297000
E-mail address: ivonabajic@gmail.com

Ana Gavran, mag. iur.
College of Applied Sciences "Lavoslav Ružička" in Vukovar
Županijska 50, 32000 Vukovar
Phone: 091 4446939 Fax: 032 444686
E-mail address: agavran@vevu.hr

THE ROLE AND THE SIGNIFICANCE OF REGIONAL WHOLESALES MARKET IN THE DEVELOPMENT OF EASTERN CROATIA - OPPORTUNITIES AND CHALLENGES

ULOGA I ZNAČAJ REGIONALNE VELETRŽNICE U RAZVOJU ISTOČNE HRVATSKE – PRILIKE I IZAZOVI

ABSTRACT

The main aim of the research is to gain insight into the significance, role, and potential of Osijek Regional Market Inc. as the market institution in the development of the economy of Slavonia, Baranya, and beyond. The regional wholesale market Osijek is one of the three wholesale markets operating in the Republic of Croatia, that is, one of the four wholesale markets within the National Wholesale Market Project, initiated by the Government of the Republic of Croatia in cooperation with the United Nations Agriculture and Food Organization (FAO), and the European Bank for Reconstruction and Development (EBRD). The development and future prospects of the wholesale market affect the development of the region, encourage small-scale food producers, and represent a marketing institution that needs to be developed through provision of quality business conditions for the existing and future service users. This paper aims to identify the opportunities and challenges that the wholesale market is facing with the purpose of attracting new users and increasing the efficiency of using the existing wholesale market capacity. The paper analyses the underlying assumptions that market owners have to fulfil in order to provide potential users with all that is necessary. The paper uses the method of classification and description, as well as induction, deduction, and concretization.

Key words: *trade, wholesale market, market, efficiency.*

SAŽETAK

Osnovni cilj istraživanja jest spoznaja u značaju, ulozi i potencijalu Regionalne tržnice Osijek d.d. kao tržišne institucije u razvoju gospodarstva Slavonije, Baranje i šire. Regionalna veletržnica

Osijek je jedna od ukupno tri veletržnice koje posluju u Republici Hrvatskoj, odnosno jedna od četiri veletržnice iz nacionalnog Projekta izgradnje mreže veletržnica koje je pokrenula Vlada Republike Hrvatske u suradnji s Organizacijom Ujedinjenih Naroda za poljoprivredu i prehranu (FAO) i Europskom bankom za obnovu i razvoj (EBRD). Razvoj i buduća perspektiva veletržnice (trgovine na veliko) utječe na razvoj regije, potiče i ohrabruje male proizvođače hrane, te predstavlja tržišnu instituciju koju treba razvijati kroz osiguranje kvalitetnijih uvjeta za poslovanje postojećih i budućih korisnika usluga. Predmet istraživanja ovog rada jest identifikacija prilika i izazova s kojima se veletržnica susreće sa svrhom privlačenja novih korisnika i efikasnost korištenja postojećih kapaciteta veletržnice. U radu su analizirane temeljne pretpostavke koje vlasnici veletržnice trebaju ispuniti, kako bi se moglo pružiti sve potrebno potencijalnim korisnicima. Kod izrade rada koristila se metoda klasifikacije i deskripcije, te indukcije i dedukcije i konkretizacije.

Ključne riječi: *trgovina, veletržnica, tržište, efikasnost*

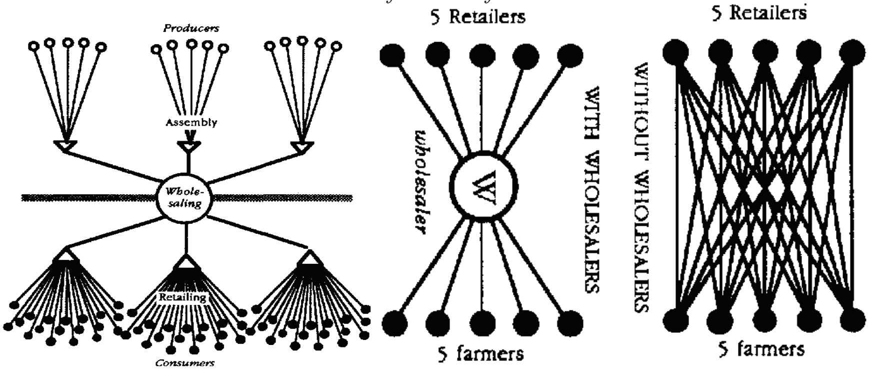
1. Introduction

Markets have always been a place where people got everyday viands and sold their redundancies, but also a place of consorting, encounter, information exchange and connecting. Without food and water as basic human needs, life is not possible. Food is a fundamental human need, but production and consumption are spatially apart. Production is mainly carried out in rural areas, whereas consumption is the most significant in urban areas (Tracey-White, 1991). Connecting producers and consumers is a complex process that includes production, sorting, distribution as well as wholesale and retail. Institution or mechanism that makes a link between producers and consumers is a set of activities that is carried out by a wholesale market - it enables the producers (farmers) the sale of small quantity of products, while customers (sellers and jobbers) can buy larger volume of products.

1.1 Wholesale markets as a place of trade

Wholesale markets are present in almost every country in the world, and are the condition for survival for a number of farmers. The essence of a wholesale market is gathering supply and demand of fresh products, primarily fruit and vegetables, in one place. Mutual competing of a number of producers and jobbers results in freshness and quality increase of products, as well as lower price of the products, all in favour of customers. With the existence and work of wholesale markets as places of gathering, the efficiency and transparency of domestic fruit and vegetable market has improved, especially that of domestic agricultural production. That is so because wholesale market is sometimes the only legal channel of sale and condition for survival for a number of farmers (d.d., 2018).

Picture 1 *The function of wholesale markets*



Source: Tracey-White, J.D.: Wholesale Markets: Planning and Design Manual

Without wholesale markets, sellers would have to buy directly from the producers – farmers, which would include a lot of small transactions. With a wholesale market as a middleman, the number of transactions is reduced and the process itself is simplified (Tracy-White, 1991). The economic function of wholesale markets is to form the price of certain goods using forces of supply and demand.

Wholesale markets ensure equal conditions for free trade between suppliers (producers, jobbers and various middlemen) and customers (retail, small-scale markets, caterings, canteens, restaurants etc.), (Internal Documents Krsnik & Kosmina).

In financial terms, the project of a wholesale market here and elsewhere in the world implies a lengthy period of return on investment, and is mainly financed with public capital. Generally, for many years a wholesale market operates with loss, which is covered by majority owners until the moment of profitability. The majority owners are the state and local community who gain profit from the wholesale market through taxes, compensations and fees (Internal documents Regional Wholesale Market Osijek JSC, 2017).

2. Who are the users of wholesale markets?

The users of services of wholesale markets are producers of fruit and vegetables, farms, unions of producers and wholesalers who engage in production, sale, storage, preparation and processing of fresh agricultural products, whose customers are greengroceries, supermarkets, retail chains, hotels, restaurants, public institutions and citizens. Wholesale market ensures:

- required public services (customs, reloadiong, cleaning, waste managemet etc.)
- facilities (selling spots, offices, warehouses, eaves, restrooms)
- equipment (scales, reloading devices, refrigerators)

to enable them to improve their efficiency and rationalization of operating respectively, in order to become competitive in the food market.

It can be said that wholesale market is a service to producers, wholesalers and other users, and it lives and survives on them. Market's administration has the responsibility to ensure minimal tehnical and sanitary conditions for the users to run their businesses, which are positively regulated and prescribed, and is obliged to take care of all public spaces. Therefore, wholesale market does not engage in wholesale, storage, processing or preparation of groceries in its own name and for its own account, because otherwise it would be in a conflict of interest with the renters, which is also the recommendation of World Union of Wholesale Markets (Internal documents Regional Wholesale Market Osijek JSC, 2017).

3. The future of wholesale market development

The main driving force of wholesale market development in developing countries should be the state and/or units of local government or self-government.
State projects and incentives should stimulate the increase of horticultural production in order to boost the fruit and vegetables supply of population (especially urban population), and thus improve its nutrition, particulary that of population of weaker financial status.
Greater freedom in marketing their own products should be allowed to producers with stimulating bank loans. Political stability and liberalization of pricing system would bring benefits both to producers and consumers, as well as to the development of trade unions and organizations (Tracey-White, 1991).
With Croatia joining the European Union, European funding became available as a great help to producers and entrepreneurs. With those funds, the level of service can be raised, and the assortment of goods can be enriched. Raising the awareness of the existence of wholesale markets as market institutions can impact the wellbeing of the whole region where the market is situated. Its role and significance result in continual adapting and recognizing new trends in terms of food and eating habits (healthy food, eco food etc.). Along with adapting to new market requirements and surrounding circumstances, it is also certain that wholesale markets play an extremely important role in the economic development. The process of creating a clear vision for wholesale markets is surely in the domain of their managements.
Furthermore, the basic mission of agricultural production in Osijek-Baranja County is to achieve higher and quality yields of cultivated plants. That would, on the one hand, ensure profitable production and solid income to producers, and on the other hand, it would contribute to the increase of total food holdings, which is more and more becoming a strategic raw material of contemporary world (Osijek-Baranja County, 2017).

4. Agricultural development = wholesale market development

According to its position, Eastern Croatia occupies the space of 12.466 km^2 and consists of five counties: Osijek-Baranja, Vukovar-Srijem, Požega-Slavonia, Brod-Posavina and Virovitica-Podravina. This paper deals with Osijek-Baranja County where the Regional Wholesale Market Osijek JSC is situated, and the city of Osijek as the administrative and economic center of the region with the most developed primary agricultural production.

When we look into the development of Regional Wholesale Market Osijek, we cannot ignore the problem of the area where the market operates. Namely, the traditional structure of production and lack of organization of agricultural production, fragmentation of land and low level of production leads the communities into not having competing products that can be marketed, locally or globally.

Osijek-Baranja County is a continental county in the Pannonian Plain in the northeast of Croatia. It occupies the space of 4.152 km^2 of Pannonian Plain fertile soil between the rivers Sava, Drava and Danube. The county's area is mainly flat and caters to agricultural development. Production capacities in the primary part of agriculture place Osijek-Baranja County in the highest-quality part of Croatian granary. Agricultural land occupies 58% of total County's surface, while forests occupy 20%. Arable land in the county enables intensive agricultural production, as well as the production according to ecological principles (Osijek-Baranja County, 2018).
In the total GDP of Croatia, agriculture, forestry and fishing participate with 3.7%. Out of 1.5 million hectares of used agricultural land, 54% are ploughlands and gardens, orchards (32000 ha), vineyard and olive groves take up 5%, and 41% are permanent lawns (Croatian Chamber of Economy, 2018).

According to the data obtained from Croatian Bureau of Statistics on the structure of agricultural properties in 2013 (published 26 July 2017), Osijek-Baranja County has 12.078 farms (Croatian Bureau of Statistics, 2018).

4.1.1 The structure of agricultural land and ecological farming

By inspecting the data on the Evidence of agricultural land use in Republic of Croatia (ARKOD) published on the website of Paying Agency for Agriculture, Fisheries and Rural Development (22 September 2015), it is evident that the total cultivated land in Osijek-Baranja County is 212.095 hectares (Osijek-Baranja County, 2017).
Figure 1 shows cultivated land in Osijek-Baranja County according to the type of use and percentage.

Figure 1 *Agricultural land in Osijek-Baranja County*

Cultivated land according to the type of use	*Surface in ha*	*Percentage %*
Ploughlands	200.892	94,7
Orchards	4.510	2,1
Olive groves	2.600	1,2
Pastures	2.851	1,4
Meadows	1.242	0,6
Total	212.095	100,0

Source: PAAFRD, ARKOD (22 September 2015)

The largest share of cultivated land in Osijek-Baranja County is taken up by ploughlands and gardens (94,7%), followed by orchards (2,1%), pastures (1,4%), vineyards (1,2%) and meadows (0,6%) (Croatian Chamber of Economy,2018).
Because of the negative aspects of capital-intensive farming, in form of negative ecological, social and economical concequences caused by mass production, the interest of foreign and domestic scientific and general public for ecological farming was intensified by specialization, standardization of products and high yields (Petljak, 2018).
Ecological farming, which is better known by the name organic agriculture, is an agricultural method that produces food from a healthy and integral community of soil and plants without the use of mineral compost, GM organisms, pesticide and other synthetic chemical substances. Ecological farming enhances the quality of soil and contributes to the increase of biological diversity in the long run.
Ecological farming is a complete system of agricultural management that encourages natural activity of soil, eco-system and people, ecological processes, biodiversity and natural cycles, taking local conditions into account, excluding the input that doesn’t come from the farm itself.
Ecological production is a comprehensive system of farming and food production management that unites the best practices in environmental protection, high levels of biodiversity, preservation of natural resources, application of high standards in animal wellbeing and production methods that are appropriate (Mešić, Pajač Živković, Židovec, Krasnić, & Čajkulić, 2016). The largest share in land that is under ecological production is in crops and cattle production, while vegetable and fruit production is insufficiently present.

***Figure 2** The share of ecological land compared to used agricultural land in total*

Year	*Used agricultural land*	*Land under ecological priduction*	*the share of land under ecological production in used agricultural land in total, %*
	ha	ha	
2007.	1.201.756	7.577	0,63
2008.	1.289.091	10.010	0,78
2009.	1.299.582	14.193	1,09
2010.	1.333.835	23.282	1,75
2011.	1.326.083	32.036	2,42
2012.	1.330.973	31.904	2,40
2013.	1.568.881	40.660	2,59
2014.	1.508.885	50.054	3,32
2015.	1.537.629	75.883	4,94
2016.	1 546 019	93.814	6,07

Source: Ministry of agriculture; Interpretation: Croatian Bureau of Statistics (Ministry of Agriculture, 2018)

5. Regional Wholesale Market Osijek JSC

Wholesale trading fresh fruits and vegetables in Osijek-Baranja Count and neighbouring counties has traditionally been carried out on the premises of Osijek Business Zone South, which is well connected with all the significant markets. The goods have previously come from all the neighbouring countries and have been furtherly distributed to Zagreb and Dalmatia (Internal documents Krsnik & Kosmina).
Regional Wholesale Market Osijek JSC is one of the four wholesale markets from the national Project of upbuilding the network of wholesale markets which was brought by the Government of the Republic of Croatia in cooperation with Food and Agriculture Organization of United Nations (FAO) and European Bank for Reconstruction and Development (EBRD). Joint stock company RWMO was formed on 15 July 1998, and the wholesale market started operating on 2 May 2001 (Internal documents Regional Wholesale Market Osijek JSC, 2017).
The company makes the most of its profit from the service of renting: warehouses, offices, exhibition and sales space, catering space and outdoor paved surfaces which are used for outdoor sale (from trucks), traffic and chargeable parking.

5.1 The advantages and difficulties of Regional Wholesale Market Osijek JSC

The advantages of using a wholesale market are multiple: a modern place of trading fruits and vegetables, offer of high-quality domestic types, wide selection of imported fruits and vegetables, applied European standards of quality and product safety, high-class equipment, operability and efficiency in providing service (the service of forklift, weighing on the 50-ton weighbridge, the presence of customs service, sanitary inspection, freightage etc.).

When it comes to wholesale market as a place of trading agricultural products, fruit and vegetables, it is important to mention a significant social component. Namely, in the Regional wholesale market Osijek, on average 200 people have been directly employed in various jobs during the course of the year, plus members of families who do the logistics part of the work. Regional Wholesale Market Osijek JSC has intensified cooperation and enabled family farms to launch their goods on the

Wholesale Market's premises, at the same time achieveing organized presentation and sale of fruit and vegetables from Slavonia, Baranja and beyond. Business and financial plan of management are established within the constraints of local and regional circumstances in economy and the surroundings:

- difficult working and operating conditions continuing into the years to come due to competing large retail chains, the decline and shut-down of crafts, family farms and other users of the service, as well as weak purchasing power of the population,
- drop in trade in outdoor exhibition and sales space of the Wholesale Market, the so-called "green market",
- difficulties with the fee charging due to insolvency of Market's users,
- limited availability of market capacities, especially refrigeratory working spaces and warehouses with controlled ULO (Ultra Low Oxygen) conditions (Internal documents Regional Wholesale Market Osijek JSC, 2017).

Marketing preparation of local products for market (sorting, packing, labelling etc.) usually isn't done at all. Goods are launched into the market unclassified and inadequately presented and therefore cannot compete with classified and well-presented goods which are sold in retail chains. Fragmented producers cannot finance high costs of marketing preparation for their goods. Furthermore, Slavonian producers are oriented towards farming crops and there is low interest for farming labour-intensive cultures. That is why better organisation of producers is needed, which can be accomplished through producer cooperatives and agricultural enterprises. It is certain that fragmentation and lack of organization of domestic producers considerably increases marketing costs and decreases competitiveness of local products respectively (Internal documents Krsnik & Kosmina). In order to alleviate such unfavourable circumstances, marketing should have its role in further development of the market, despite the lack of financial resources.

5.2 The vision of Regional Wholesale Market Osijek JSC development

In recent years agriculture and food industry have participated in the total gross domestic product with 9.1% on average, and in the total employment with more than 20%. Croatia has quite a lot of fertile soils and it is rich in water, especially eatern Croatia. Regardless of our ploughlands, gardens, orchards and vineyards being thirsty, the soil is insufficiently and inadequately fed and the prices of agricultural-food products are high. The irrigation system must be amplified to secure higher and more stable production of various quality products. Thus, the industry would advace in greater and safer production. Such an approach is absolutely possible in Croatian agriculture. With the development of irrigation, application of land consolidation measures, enhancement of land cultivation, upping ecological production and production of authentic products and directing professional education of agricultural producers and experts towards the practical needs, Croatia would become exporter of agricultural-food products again (Tomić et al., 2013).
The main fator of economical inefficiency is low yield and small property, and investments per unit of production and products are too big. The path of development for this sector is primarily in property consolidation, building repositories and finishing, which would enable setting the higher selling price.
In orcharding, the share of plantation orchards is less than 35% out of the total land, while the majority of orchards has the surface of less than 5 ha which are needed for the economical efficiency. The average yields of vegetables in the Republic of Croatia are several times smaller than world and European averages, with large number of producers on small surfaces (Grgić, Šakić Bobić, & Očić, 2013).
It is not permissible that the Wholesale Market stagnates, but it is necessary to furtherly develop it by building refrigeratory, processing, finishing, sorting and other capacities in order to be able to provide all the needed services to potential users, thus making it even more attractive for the renters.

The solution is in capacity expansion, widening the range of activity and animation of new users (Internal documents Regional Wholesale Market Osijek JSC, 2017).
Wholesale markets should profile themselves to the centers of excellence, or in other words, places where interested wholesale buyers could purchase a wide range of fresh products of controlled quality, ecological products, delicacies etc. at all times. The advantage of wholesale markets over the retail chains is that there is competition between a greater number of sellers, auction mode of sale, ie negotiation on price and payment terms, the possibility of goods comparison. Therefore, the precondition for successful operation of wholesale markets is actually wide offer of quality Croatian products, which would come into market with adopted EU standards on classification, hygiene, packing etc. The Wholesale Market should gradually be transformed into County Center of Fresh Products, where people would, alongside fruit and vegetables, trade other fresh products such as meat and meat products, milk and diary products, flowers, fish and seafood etc.
The possibilities for wholesale market's development:

- enhancing the quality of wholesale market's services by promoting and strenghtening its reputaton,
- introducing new commercial activiites in the wholesale market or along the wholesale market,
- strenghtening advisory services and user support,
- maintaining the competition.

One of the possibilities is that one of the market's users offers to do logistics work for a dislocated retail chain, ie that it purchases goods ordered by the chain in the wholesale market, sorts and packs them according to the given standards, and distributes them to the given location. This variant works well in the wholesale markets in Bologne and Rome, and it increases the trade of the wholesalers in the wholesale market.
As the authors claim, the promotion of healthy food – in cooperation with producer unions and cooperatives, it is necessary to continually promote Croatian products and nutritional values in fruit and vegetable consummation, to promote the recipes etc. (Internal documents Krsnik & Kosmina).
Talking with a member of administration of Regional Wholesale Market Osijek JSC, it was found out that in the following year, the administration will strive to modernize the business and the operating space of the observed facility itself by using the available EU projects funding. Thus, they made the project of building the solar panels, which would produce electric energy and supply the facility. The plan is to repurpose the gas plant into the biomass plan, which is ecologically acceptable, proclaiming ecologically sustainable operating.
Fruit and vegetable dryer is planned in the location where ULO cooler was supposed to be built (the project was taken over by Osijek-Baranja County and relocated it in the Business Zone Nemetin). The project implies building a $250m^2$ operating space (dryer) which would enable local small producers to process the raw material. The produced goods: candied fruit, dried fruit (plum, apple cherry, apricot, chokeberry) and vegetables (production of spices) would get a new, bigger value and would be more competitive in the market. The expenses of the project would be approximately 1.5 million kunas. Produced in Croatia and EKO certificates additionally increase the value of product in local and national market, but also in the EU market.

6. Conclusion

Wholesale markets are present in every part of the world as a place of encounter of producers and buyers, but in Croatia they do not play the role which was given to them. State or self-government stimulating measures are inevitable. They would cater to ecological horticultural farming which would change the whole seemingly hopeless situation. Better quality offer would satisfy both the producers and the consumers. The basic goals of Regional Wholesale Market Osijek JSC are quite humble and relate to filling the existing capacities by attracting new service users, and securing better conditions for users' operation. Attracting new renters whose activities are not primarily tied to production and offer of fruit and vegetables, and realization of trade fair project on the Wholesale Market premises and its promotion through holding seasonal and theme one-day fairs (healthy food fair, strawberry, hothouse, grapes, winter stores fairs etc) are some of the ideas that should be realized in the future. According to internal documents of Regional Wholesale Market, the additional parking space is planned, as well as renting the outdoor space and the business facility for advertising purposes. It can be concluded that the Regional Wholesale Market JSC has a lot of operationg difficulties on the one hand, but also the opportunities for development on the other hand. By well-set goals and the will to survive and compete, it will be necessary to adapt to new market circumstances, taking the efficiency of all the resources into account. Wholesale markets justifiably exist, and have the future as well as the potential for further development. With innovative ideas and fine management they will positively affect economical development of the area they operate in.

REFERENCES

Državni zavod za statistiku. (15. 3 2018). *Poljoprivreda-pregled po županijama-Državni zavod za statistiku.* Dohvaćeno iz www.dzs.hr: https://www.dzs.hr/Hrv.../Poljoprivreda%20-%20pregled%20po%20zupanijama.xlsx

Grgić, Z., Šakić Bobić, B., & Očić, V. (2013). Ekonomski održiva veličina poljoprivrednih gospodarstava u ovisnosti o strukturi proizvodnje. *Proizvodnja hrane i šumarstvo - temelj razvoja istočne Hrvatske* (str. 20-21). Osijek: Hrvatska akademija znanosti i umjetnosti.

Hrvatska gospodarska komora. (14. 3 2018). *Republika Hrvatska 2016.* Dohvaćeno iz www.hgk.hr: https://www.hgk.hr/documents/republikahrvatska2016hrweb5824783267fa1.pdf

Hrvatska gospodarska komora. (14. 3 2018). *Stanje gospodarstva Osječko-baranjske županije.* Dohvaćeno iz www.hgk.hr: https://www.hgk.hr/documents/stanje-gospodarstva-obzrujan-201759ef01f2cf62d.pdf

Krsnik, Z., & Kosmina, M. (n.d.). Idejno rješenje razvoja Regionalna veletržnica Osijek d.d. *Idejno rješenje razvoja Regionalna veletržnica Osijek d.d.* Zagreb.

Mešić, A., Pajač Živković, I., Židovec, V., Krasnić, M., & Čajkulić, A. (lipanj 2016). Ekološka biljna poljoprivredna proizvodnja u Hrvatskoj i njezino označavanje. *Glasilo biljne zaštite*, str. 563-577.

Ministarstvo poljoprivrede. (10. 3 2018). *Statistika 2016.* Dohvaćeno iz www.mps.hr: http://www.mps.hr/hr/poljoprivreda-i-ruralni-razvoj/poljoprivreda/ekoloska/statistika-2016

Osječko-baranjska županija. (2017). *Informacija o stanju i problematici biljne proizvodnje na području Osječko-baranjske županije.* Osijek: Skupština.

Osječko-baranjska županija. (17. 3 2018). *Gospodarstvo*. Dohvaćeno iz www.obz.hr: http://www.obz.hr/hr/index.php?tekst=101

Petljak, K. (10. ožujak 2018). *Pregled razvoja i obilježja ekološke poljoprivrede u Republici Hrvatskoj.* Dohvaćeno iz https://hrcak.srce.hr/: https://hrcak.srce.hr/file/113174

Regionalna veletržnica Osijek d.d. (2017). *Izvješće Uprave o poslovanju društva RVO d.d. za 2016. godinu.* Osijek.

Tomić, F., Kralik, G., Krička, T., Guberac, V., Bašić, F., Kovačević, J., Franić, R. (2013). Aktualno stanje u hrvatskoj poljoprivredi i smjernice njezina razvoja. *Proizvodnja hrane i šumarstvo - temelj razvoja istočne Hrvatske* (str. 11-12). Osijek: Hrvatska akademija znanosti i umjetnosti.

Tracey-White, J. (1991). *Wholsale Markets: Planning and Design Manual.* Food & Agriculture Org.

Željko Pavić, PhD, Associate Professor
Faculty of Humanities and Social Sciences
Josip Juraj Strossmayer University of Osijek
Lorenza Jegera 9, 31 000 Osijek (Croatia)
Phone: +385 49 46 36 Fax: +385 031 21 25 14
E-mail address: zpavic@ffos.hr

Nemanja Davidović, PhD, Head of Department for Cooperation with European, Regional and International Institutions
European Affairs Fund of AP Vojvodina (Serbia)
Hajduk Veljkova 11, 21000 Novi Sad (Serbia)
Phone: +381 21 310 2082
E-mail address: davidovic@vojvodinahouse.eu

Tanja Armenski, PhD, Assistant Professor
Department of Geography, Tourism and Hotel Management
Faculty of Sciences, University of Novi Sad (Serbia)
Trg Dositeja Obradovica 3, 21000 Novi Sad (Serbia)
Phone: +381 21 485 28 45 Fax: + 381 21 455 630
E-mail address: tanja.armenski@dgt.uns.ac.rs

CULTURAL TOURISM IN POSTINDUSTRIAL REGIONS: THE CASES OF SLAVONIA-BARANJA AND VOJVODINA

KULTURNI TURIZAM U POSTINDUSTRIJSKIM REGIJAMA: SLUČAJEVI SLAVONIJE I BARANJE I VOJVODINE

ABSTRACT

This paper examines the similarities and differences of the cultural tourism development in Slavonija and Baranja (Croatia) and Vojvodina (Serbia). The two regions share similar cultural heritage, whereas now they are on similar paths of development directed towards postindustrial economy and creative industries. The aim of the study was to determine the strategies of cultural tourism in both regions, the extent to which the cultural tourism is integrated into the tourism offer of the regions, the type of culture, cultural heritage and cultural/civilizational identity that is promoted for tourism purposes, and to explore whether inauthentic/simulational or authentic tourism is being promoted. A mixed method content analysis was conducted on a sample of tourism websites (N=107) of two distinct tourist stakeholders in both regions, with the appropriate checks of research validity and reliability. The results show differences between the two regions with regard to the cultural tourism strategies, wherein Slavonia and Baranja opts for traditions/ethnic cultural tourism, while Vojvodina follows a more diversified strategy, both in cultural tourism and in tourism in general. Notwithstanding the fact that both regions emphasise their locality uniqueness to a same degree, Vojvodina is much more involved into projecting representations of authenticity and difference from everyday/mass/artifical that can be experienced when visiting Vojvodina. It seems that Slavonia and Baranja focus on tourists that seek peace and relaxation, with ensuing shallow cultural experiences (casual and incidental cultural tourists), while Vojvodina aims more for tourists who seek and/or find deeper and more elaborated cultural experiences (purposeful cultural tourists).The authors bring the paper to a close by delineating practical and theoretical importance of the study and prospects for the future research.

Key words: *Authenticity, Cultural tourism, Identity, Postindustrial economy, Postmodern society.*

SAŽETAK

U radu se razmatraju sličnosti i razlike u razvoju kulturnog turizma u Slavoniji i Baranji (Hrvatska) i Vojvodini (Srbija). Dvije regije imaju sličnu kulturnu baštinu i povijest, a sada su na sličnim putevima razvoja usmjerene prema postindustrijskom gospodarstvu i kreativnim industrijama. Cilj studije bio je utvrditi strategije kulturnog turizma u obje regije, istražiti u kojoj je mjeri kulturni turizam integriran u trenutačnu turističku ponudu regija, vrstu kulture, kulturne baštine i kulturno/civilizacijski identitet koji se promovira u turističke svrhe, te istražiti je li u pitanju neautentični (simulacijski) ili autentični turizam. Mješovita analiza sadržaja provedena na probabilističkom uzorku turističkih internetskih stranica dviju različitih turističkih dionika (javni sektor – turističke zajednice i privatni sektor) u obje regije (ukupna veličina uzorka iznosi 107), uz odgovarajuće provjere valjanosti i pouzdanosti istraživanja. Rezultati pokazuju razlike između dviju regija s obzirom na strategije kulturnog turizma, pri čemu se Slavonija i Baranja usmjeravaju na tradicijski/etnički kulturni turizam, a Vojvodina slijedi raznolikiju strategiju u kulturnom turizmu i turizmu općenito. Bez obzira na činjenicu da obje regije naglašavaju jedinstvenost svog lokalnog identiteta u istom stupnju, Vojvodina je mnogo više uključena u projektiranje reprezentacija autentičnosti i razlikovanja od svakodnevnog (masovnog, umjetnog) koje se može doživjeti prilikom turističke posjete Vojvodini. Čini se da se Slavonija i Baranja u tom smislu uglavnom usredotočuju na turiste koji traže mir i opuštanje, s posljedičnim plitkim kulturnim iskustvima (tzv. slučajni kulturni turisti) prilikom posjete, a Vojvodina više na turiste koji traže i/ili pronađu dublje i razrađeno kulturno iskustvo (tzv. svrhoviti kulturni turisti). Autori završavaju rad izlaganjem praktične i teorijske važnosti ove studije i perspektivama budućih istraživanja.

Ključne riječi: *Autentičnost, kulturni turizam, identitet, postindustrijska ekonomija, postmoderno društvo.*

1. Introduction

Contemporary time is marked by a crisis of the modernist universalism. At a time of globalizing encounters with different cultures, an accent on the locality might be motivated by a need of redefinition of identity, which ceases to be unquestionable. It appears that earlier concerns about the Westernization proved to be somewhat unfounded, since the cultural goods can be appropriated through diverse ways and various meanings. However, search for uniqueness can also be stimulated by a possibility to utilize it as a resource that can be employed for tourism and other commercial purposes. Therefore, it appears that the process of redefinition of identity in the postmodern age can be divided into two types. The first type is composed of the identity construction with political intentions. Examples of this sort of identity building can be encountered in sub-national/regional movements or religious fundamentalisms. On the other hand, a less politicized identity building moves in the direction of emphasizing cultural specificities based on the cultural heritage and cultural capital (for an overview of the concept, see Pavić and Đukić, 2016). Cultural heritage of a country can be defined as "a composite of the history and the coherence and continuity of the nation's distinguishable characteristics" (Hakala, Lätti, and Sandberg, 2011: 450). As Smith (2003) points out, cultural tourism is usually defined as a composite that consists of heritage/ethnic/indigenous and arts tourism. The heritage tourism is linked to the history embodied in artefacts usually located in specialized cultural institutions (museums, galleries, etc.) and historical buildings, whereas arts tourism is more of a contemporary nature, involving performing arts (theatres, concert halls, etc.), visual arts (galleries, sculpture parks, etc.), modern popular culture (music, fashion, etc.), and so on. We could even broaden this definition by including contemporary cultural practices loosely anthropologically described as a "way of life" of a particular group.

The aim of this paper is to examine the similarities and differences of the cultural tourism branding of Slavonija and Baranja (Croatia) and Vojvodina (Serbia). The two historic regions share similar history and cultural heritage, and they had been part of the same empires and states until the breakup of Yugoslavia, whereas they now share similar paths of economic and social development. Once mainly agricultural and industrial regions, Slavonia and Baranja and Vojvodina are on the paths of post-industrial development, with tourism forming a part of it. Being continental and lowland regions, both Slavonia and Baranja and Vojvodina can not rely on the classical tourism present in the other parts of Croatia and Serbia. Therefore, on a policy level, especially in the Croatian case, cultural tourism can also be seen as a measure of combating very pronounced regional imbalances in tourism, which is often regarded as one of the advantages of cultural tourism (Richards, 1996: 71).

2. Study background: Slavonia and Baranja/Vojvodina

Throughout the history, regions of Slavonija and Baranja (Croatia) and Vojvodina (Serbia) had been part of the same empires and states - Habsburg Monarchy, Austrian Empire, Austria-Hungary, Kingdom of Yugoslavia, and finally Socialist Federal Republic of Yugoslavia. Since 1991, after the breakup of Yugoslavia, they are no longer parts of the same state. Socialist Yugoslavia had a rather developed tourism industry, mostly located around the Adriatic coast. The image of the country was welcoming and positive to the West (Hall, 2002). After the decline of the tourism industry in the region in the 1990s, there ensued a a successful recovery in Croatia, and a slow recovery in Serbia, due to images held by potential travelers and the effective management of those images by the destination (Fakeye and Crompton, 1991; Sirgy and Su, 2000). According to Howard and Allen (2008), only non-visitors used negative words to describe Serbia, whereas visitors describe it with positive words which are related to matters such as the culture, heritage and lifestyle. Earlier research showed that Serbia is more competitive in its natural, cultural and created resources than in destination management. At the same time, it is less competitive in demand conditions, which refer to the image and awareness of the destination itself (Armenski, Gomezelj, Djurdjev, Đeri, and Dragin, 2011), even though the data are very insufficient in this regard (Paunović, 2015). Late 20th century and early 21st century marked a period of wars (from the brake-up of Yugoslavia to the Kosovo war, covering period from 1991 until 1999) and political instability in Serbian history. Thus, Serbia has acquired a negative image as a tourist destination (Howard, Allen, 2008). Consequently, it registers a slow recovery in the number of tourists. Modern Serbian tourism industry is significantly reduced compared to the pre-war period. Serbia has never recognised tourism as an industry of a strategic importance. Most significant forms of tourism are city break, with the capital Belgrade, and mountain tourism in central and southern regions. Hence, it has a significantly smaller tourism flow than Croatia - only 2,437,165 arrivals and 6,651,852 overnight stays. Although Vojvodina has some potential for tourism development (the Danube and city brake tourism), it is extremely underutilised. Vojvodina has a share of roughly 15% of the total Serbian tourism flow, with 413,332 arrivals and 994,314 overnight stays (Statistical Office of the Republic of Serbia). Slavonia and Baranja do not represent a significant part of the Croatian tourism, since the Croatian tourism is mostly connected to the Adriatic Sea coast. According to the latest available data (Croatian Bureau of Statistics), the Croatian continental area represents only 12.8% of the Croatian tourist arrivals (1,834,418 out of total 14,343,323 arrivals) and only 4.6% of overnight stays (3,306,148 of total 71,605,315). When it comes to Slavonia and Baranja, it counts only 176,737 arrivals (1.2%) and 348,909 overnight stays (0.5%).

The development of tourism in Slavonia and Baranja and Vojvodina up to this point follows closely the deindustralization model outlined by Abankina (2013). The circumstances caused by loss of markets due to the war and the breakup of Yugoslavia and a botched privatization have led to de-industrialization. The regions once recognizable by agriculture and industry are now turning to the post-industrial economy based on services, creative industries and tourism that are leaning on cultural heritage, ecological agriculture and rural heritage (for an overview of environmental development theories, see Pavić and Šundalić, 2016). As noted by Boyd (2002), cultural and heritage tourism is usually promoted by those destinations that cannot count on the classic "three S paradigm". Cultural tourism can be observed in a wider context, where culture is the main travel motive (McKercher and Cros, 2000). Thus, for Slavonija and Baranja and Vojvodina to become competitive, they must strategically promote features of culture and cultural tourism, distinguishing them from similar destinations.

3. Research questions and methods

Based on the aforementioned theoretical considerations and social, economical, cultural and historical similarities between the two regions, an explorative study was conducted aimed at determining the similarities and differences of cultural tourism strategies of these two regions as the general research question. A content analysis has been conducted on a sample of websites (a total of 68 units for Slavonia and Baranja, and a total of 39 units for Vojvodina) of two distinct tourist stakeholders. The first type comprised of private sector stakeholders (hotels, restaurants, rural tourism entrepreneurs, etc.), while the other, more numerous type included so-called destination marketing organizations. The two most common sub-types of DMO's in our sample were local and regional (county) tourist boards and local self-government units.

A systematic effort has been paid to the issues of validity and reliability. Reliability was further ensured by using additional two independent coders. Pairwise percent agreement was used as a reliability measure, since the exact matching of coders' scores is appropriate in case of categorical (nominal-level) variables. Krippendorff's alphas of all variables was calculated as well. Reliability values point to an acceptable reliability of the research. To be more precise, Krippendorff's alphas exceeded value of 0.7 in most cases. Aside from the reliability calculations, statistical analysis of the data was straightforward (cross-tabulations and chi-square calculation), following from the measurement level used in the coding form.

4. Results and discussion

When it comes to the extent to which the cultural tourism is integrated into the tourism offer of the regions, the responses on the questions regarding the type of experience and holiday that are being emphasised were examined (Table 1). Tourism is an "experience industry", hence tourism marketing is "experience marketing" (O'Sullivan and Sprangler, 1998; Schmitt, 1999). Relaxation experience is emphasised in both regions, with a share of over a third of all responses. This comes as a no surprise, since desirable image of relaxation, peace and calm is strongly promoted against post-war and danger image that these regions still might have. In addition, both Slavonia and Baranja and Vojvodina are strongly related to hedonism, such as 'slow-food' and traditional wine regions. Learning about local culture and way of life comes shortly second in Slavonia and Baranja, whereas it holds a share of just over a third. On the other hand, in Vojvodina, fun experience is promoted more.

Table 1 *What type of experience is emphasized?*

Type of experience	Slavonia and Baranja	Vojvodina
Fun	5 (7.4%)	10 (25.6%)
Relaxation	25 (36.8%)	15 (38.5%)
Learning about local culture and way of life	24 (35.3%)	2 (5.1%)
Unique cultural experience/place atmosphere	14 (20.6%)	9 (23.1%)
Other	0 (0.0%)	3 (7.7.%)
Total	68 (100.0%)	39 (100.0%)

Source: Authors' research

Slavonia and Baranja have a clear strategic focus on three main types of holiday: rural, cultural and ecotourism/nature. Vojvodina is more diversified with significant emphasis on cultural, sports, rural, ecotourism/nature and city trip holidays (Table 2). Although the regions have quite similar tourism resources, their development strategies are different, with Slavonia and Baranja opting for niche market, and Vojvodina selecting a diversification strategy. This strategic decision can be justified (Vojvodina has the necessary infrastructure to emphasise sports holiday- EuroVelo routes, European Ramblers paths, hunting, fishing and equestrian sport, and City trip - Novi Sad being a European Culture Capital 2021).

Table 2 *What type of holiday is emphasised?*

Type of holiday	Slavonia and Baranja	Vojvodina
Cultural	17 (25.0%)	9 (23.1%)
Sports	0 (0.0%)	8 (20.5%)
Creative/educational	2 (2.9%)	0 (0.0%)
Rural	26 (38.2%)	7 (17.9%)
Health/wellness	6 (8.8%)	3 (7.7.%)
Ecotourism/nature	16 (23.5%)	4 (10.3%)
City trip	0 (0.0%)	4 (10.3%)
Touring	1 (1,5%)	2 (5.1%)
Other	0 (0.0%)	2 (5.1.%)
Total	68 (100.0%)	39 (100.0%)

Source: Authors' research; χ^2=18.31; p<.05

Thus, it can be concluded that cultural tourism is integrated into the tourism offer of the regions to a large extent. However, learning about the local culture and way of life is somewhat more present in Slavonia and Baranja. As for the holiday typology, both regions have a similar emphasis on culture. On balance, cultural tourism is fully integrated into the tourism offer of both regions, and it can be considered a top tourism product of Slavonia and Baranja. As visible in Table 3, Vojvodina focuses almost exclusively on cultural heritage, Slavonia and Baranja have a more balanced share of traditional (folk) culture and cultural heritage. Having an emphasis on traditional (folk) culture corresponds with an emphasis on rural holidays, as well as experience of learning about local culture and a way of life. Slavonia and Baranja are traditionally the most rural areas in Croatia. Therefore, it is compelling to have such strategic focus. Vojvodina fails to capitalise on these assets. Although it has less rural areas than Serbian national average, is by far more rural than the European average, with a ratio of 43,3% (Statistical Office of the Republic of Serbia).

Table 3 *What type of culture is emphasised (if any)?*

Type of culture	Slavonia and Baranja	Vojvodina
Cultural heritage	21 (39.6%)	30 (81.1%)
Traditional (folk) culture	29 (54.7%)	6 (16.2%)
Contemporary culture	2 (3.8%)	1 (2.7%)
Other	1 (1.5%)	0 (0.0%)
Total	53 (100.0%)	39 (100.0%)

Source: Authors' research; χ^2=15.69; p<.01

Vojvodina places higher significance to cultural heritage, and Slavonia and Baranja tend to have a more balanced promotion of traditional culture and cultural heritage. It can be assumed that Slavonia and Baranja also have a strategic focus when it comes to promotion of both tangible and intangible cultural heritage. Vojvodina has a higher rate of referencing most types of cultural heritage, however its tourism significance is ambiguous. It can be noted that, according to our research (the table not presented here due to space limitations), most destinations in Vojvodina (53.8%) do promote culture/ civilizational identity. This ratio is lower in Slavonia and Baranja - 39.7%. In the 1990s, Croatia sought recognition as belonging to Europe or Central Europe by defining its cultural identity against Yugoslav or Balkan (Lindstrom, 2003). However, the results show that Slavonia and Baranja lack a wider cultural/civilizational identity. Most web sites that put culture into a wider context are related to the national (Croatian) culture. Vojvodina on the other hand boasts with its multiculturalism and the 29 nationalities living there. However, the unique combination of these cultures is underrepresented in comparison to the context of national culture. Therefore, the cultural/civilizational identity is still promoted as national cultures existing one next to another, rather than as a unique combination of these cultures. The context of belonging to European, Middle-European or Pannonian culture is slightly higher in Slavonia and Baranja.

And finally, according to our research, it can be concluded that Vojvodina promotes authentic tourism more than Slavonia and Baranja. In contrast to highlighting local uniqueness, the image of Croatia that is aimed to convey to foreign tourists represents a combination of characteristics that can be found in other countries as well. As Rivera (2011: 124) puts it, this impression management tries to elaborate that "Croatia is unique because it is nearly *identical* to its Western neighbors". However, the representation of Croatia as "uniquely unoriginal country" could be a very risky strategy of impression management since Croatia could lose its uniqueness in the eyes of prospective tourists (Rivera, 2011: 132).

According to the ATLAS Cultural Tourism Survey (Summary Report 2007) the main motivation for cultural tourism visits was "lots of interesting things to see", closely followed by "I like the atmosphere of this place" (both around 85% of agreement). Two other remaining motivational statements – "It was very relaxing being here" and "This experience has increased my knowledge" also received high levels of agreement (around 80%). The results of this paper are congruent with the aforementioned research. Both regions emphasise a relaxing experience, mostly related to hedonism, slow food and wine. Food is also an important part of the tourism offer, as much as that the niche market of gastronomic/gourmet tourism already exists. This can be perceived as part of cultural tourism in a wider context. Saying that, authentic food can foster tourism development (Kalenjuk, Tešanović, and Gagić, 2015). Furthermore, the types of cultural heritage promoted correspond to the previous research. However, having in mind low response rate of tourists to heritage sites of local/traditional culture, this suggests lack of efficiency in tourism promotion. A particular lack of management capacities can be noticed in Vojvodina (Armenski, Gomezelj, Djurdjev, Đeri, and Dragin, 2011; Mulec and Wise, 2012; Mulec and Wise, 2013).

It seems that the branding of Slavonian tourism follows a different path in comparison to the tourism branding of Croatia as a whole. According to Rivera (2011), countries that are faced with stigmatization can follow one of the strategies outlined by Goffman (1963). According to him, Croatia followed the strategy of covering up of the stigmatised status during the course of its rebranding in the context of tourism. In contrast to the earlier pre-war emphasis on Croatia as a unified country at the crossroads of civilizations, post-war impression management foregrounds Croatia as an exclusively European country, comparable to several European countries. According to the results of our study, in contrast to this crossroads-of-cultures perspective, tourism of Slavonia and Baranja is represented through the images of unique small rural spaces with clean nature, wherein tourist experiences offer insights into the local traditional culture and way of living. However, in most cases this image is not underlined with the notions of authenticity and difference when compared to the everyday living. Furthermore, the represented local culture is highly de-contextualised, i.e. it is represented outside its wider historical and civilizational context. Thus, it functions as a quasi-utopian space with no clear cultural boundaries and identity. In this way, verbally emphasised uniqueness of the region seems empty and unfounded, lacking deeper justification of the supposed unique natural and cultural characteristics of the region. As in the Croatian tourism as a whole (Pende, 2013), Slavonian tourism seem to lack a coherent projected cultural identity onto which further tourism strategy can be built.

As far as Serbia is concerned, the wars and political crisis contributed to a negative image of Serbia as a country that is not safe. Feeling of insecurity restricted the willingness of foreign tourists to visit Serbia (Armenski, Zakić, and Dragin, 2009). Serbia should undertake stronger promotional activities and some of the brand strategies to create a clear identity of Serbia as a tourism destination. In this regard, it should use the concept of integrated marketing communication but also a systematic approach. This calls for an organization on the national level that would manage the complete project of improving reimaging Serbia through consistent promotional activities (Domazet and Hanić, 2012). Vojvodina's main characteristic is non-awareness, or lack of knowledge and destination image, that opens up an opportunity to brand a new image. Although it strives to portray itself as a European and Central European region that nourishes multiculturalism, the results of this study indicate it's a success only to some extent. The cultural context is promoted rather as a set of individual national cultures than a unique mixture of various nationalities and religions. If Slavonian and Vojvodinaean tourism is to improve its competitiveness, a clear positive national and tourism image must be projected.

To sum it up, our results show that Slavonia and Baranja opt for a more niche strategy when it comes to tourism in general, orientated mainly on rural and ecotourism (Šundalić and Pavić, 2008), while Vojvodina follows the strategy of diversification. The diference in focus is also present with regard to culture and cultural tourism. Drawing from the classification of culture tourism strategies, outlined by Csapó (2012), we can conclude that Slavonia and Baranja are heavily directed towards traditions/ethnic tourism, while Vojvodina is more diversified, focusing both on heritage tourism and cultural city tourism. Notwithstanding the fact that both regions emphasise their locality uniqueness to a same degree, Vojvodina is much more involved into projecting representations of authenticity and difference from everyday/mass/artifical that can be experienced when visiting Vojvodina. Thus, according to the typology put forward by McKercher and Du Cros (2000), it seems that Slavonia and Baranja focus on tourists that seek peace and relaxation, with ensuing shallow cultural experiences (casual and incidental cultural tourists), while Vojvodina aims more for tourists who seek and/or find deeper and more elaborated cultural experiences (purposeful cultural tourists).

5. Conclusion

Thus, it seems that Slavonia and Baranja and Vojvodina, even though being similar regions in most respects, follow somewhat different tourism strategies, as well as strategies of cultural differentiation in the context of tourism. It is still impossible to say which strategy is more successful and what are the reasons for the success, since both regions are not traditionally tourist regions, i.e. their tourism strategies and policies are fairly recent. Thus, this remains to be seen and determined in future research. Results of the research have practical implications for cultural tourism management in both regions, as well. DMO's should face the challenge of managing their resources efficiently in order to supply a cultural holiday experience that would outperform alternative destination experiences. On the theoretical level, the results of the study push for a more nuanced understanding of cultural tourism, and the application of the existing and the development of future cultural tourism classifications and typologies which would be useful in future studies that aim to understand competitive cultural tourism strategies and their varying success.

REFERENCES

Armenski, T., Gomezelj, D. O., Djurdjev, B., Đeri, L., & Dragin, A. (2011): ***Destination Competitiveness: A Challenging Process for Serbia*****,** HUMAN GEOGRAPHIES – Journal of Studies and Research in Human Geography (Faculty of Geography in Bucharest), Vol. 5, No. 1, pp. 19-33

Armenski, T., Zakić, L., & Dragin, A. (2009): ***The Perception of Foreign Tourists on the Image of Serbia***, Bulletin of the Serbian Geographical Society (Serbian Geographical Society, Belgrade), Vol. 89, No. 1, pp. 53-63

Abankina, T. (2013): ***Regional development models using cultural heritage resources*, **International Journal of Culture, Tourism and Hospitality Research (Emerald Publishing, Bingley), Vol. 7, No. 1, pp. 3-10

Csapó, J. (2012): ***The Role and Importance of Cultural Tourism in Modern Tourism Industry*,** in Kasimoglu, M. and Aydin, H., ed.: Strategies for Tourism Industry - Micro and Macro Perspectives, In Tech, Rijeka, pp. 201-232

Domazet, I., & Hanić, A. (2012): ***Promotion of Serbian National Image in the Light of EU Accession***, in Teixeira, P., Portugal Duarte, A, Redžepagić, S., Erić, D. and Andrejević, S., ed.: European integration process in Western Balkan countries, Faculty of Economics of the University of Coimbra, Coimbra, pp. 590-608

Fakeye P. C., & Crompton J. L. (1991): ***Image differences between prospective, first-time, and repeat visitors to the lower Rio Grande valley***, Journal of Travel Research (Sage, London), Vol. 30, No. 2, pp. 10–15

Goffman, E. (1963): ***Stigma: Notes on the Management of Spoiled Identity*,** Prentice-Hall, Englewood Cliffs

Hakala, U., Lätti, S., & Sandberg, B. (2011): **Operationalising brand heritage and cultural heritage,** Journal of Product & Brand Management (Emerald Publishing, Bingley), Vol. 20, No. 6, pp. 447-456

Howard, L. H., & Allen D. (2008): ***Visitor and Nonvisitor Images of Central and Eastern Europe: a Qualitative Analysis*,** International Journal of Tourism Research (John Wiley & Sons, London), Vol. 10, No. 1, pp. 27–40

Kalenjuk, B., Tešanović, D., & Gagić, S. (2015): ***Offer of Authentic Food as a Condition for Gastronomic Tourism Development*,** The European Journal of Applied Economics (De Gruyter, Berlin), Vol. 12, No. 2, pp. 27–34

Lindstrom, N. (2003): ***Between Europe and the Balkans: Mapping Slovenia and Croatia's "Return to Europe" in the 1990s***, Dialectical Anthropology (Springer, Berlin), Vol. 27, pp. 313–329

McKercher, R., & Du Cros, H. (2000): ***Cultural Tourism: The Partnership between tourism and cultural heritage management*,** Haworth Press, Binghamption (NY)

Mulec, I., & Wise, N. (2013): ***Indicating the competitiveness of Serbia's Vojvodina Region as an emerging tourism destination*,** Tourism Management Perspectives (Elsevier, Amsterdam), Vol. 8, pp. 68-79

Mulec, I., & Wise, N. (2012): ***Foreign tour operators and travel agents knowledge of a potential tourism destination: The Vojvodina Region of Serbia. Managing Global Transitions***, Managing Global Transitions (Faculty of Management, Koper), Vol. 10, No. 2, pp. 171–187

Paunović, I. (2015): ***Overview and analysis of summer season tourist market in Serbia*,** Tourismos: An International Interdisciplinary Journal of Tourism (Institute for Tourism, Zagreb), Vol. 10, No. 2, pp. 15-39

Pavić, Ž., & Đukić, M. (2016): ***Cultural Capital and Educational Outcomes in Croatia: A Contextual Approach***, Sociologia (Slovak Academy of Sciences, Bratislava) Vol. 48, No. 6, pp. 601-621

Pavić, Ž., & Šundalić, A. (2016): ***Environmentalism and Development in Catholic Social Teaching: A Case of the Encyclical Laudato Si*'**, Ekonomski vjesnik (Faculty of Economics in Osijek), Vol. 29, No. 2, pp. 323-334

Pende, H. (2013): ***Hrvatski turizam: upravljanje identitetom [Croatian Tourism: Managing Identity*],** Hrvatska sveučilišna naklada, Zagreb

O'Sullivan, E., & Sprangler, K. (1998): ***Experience marketing - strategies for the new millenium*,** Venture Publishing, State College (PA)

Richards, G. (1996): ***The Policy Context of Cultural Tourism*,** In Richards, G., ed.: Cultural Tourism in Europe, CAB International, Wallingford, pp. 67-79

Rivera, L. A. (2011): ***Impression Management of Stigmatized Nations: The Case of Croatia*,** in: Bandelj, N. and Wherry, F., ed.: The Cultural Wealth of Nations, Stanford University Press, Stanford, pp. 1-24

Schmitt, B.H. (1999): ***Experiental marketing- how to get customers to sence- feel- think -act – relate to your company and brands*,** The Free Press, New York

Sirgy, M. J., & Su C. (2000): ***Destination Image, Self-Congruity, and Travel Behavior: Toward an Integrative Model*,** Journal of Travel Research (Sage, London), Vol. 38, No. 4, pp. 340-53

Smith, M. K. (2003): ***Issues in Cultural Tourism Studies*,** Routledge, London

Šundalić, A., & Pavić, Ž. (2008): ***Socioprostorna uvjetovanost odnosa prema prirodi***, Sociologija i prostor (Institute for Social Research in Zagreb), Vol. 46, No. 3-4, pp. 383-397

Mateja Petračić, PhD
Karlovac University of Applied Sciences
Trg J.J. Strossmayera 9, Karlovac
Phone: +385 915137135, Fax: +385 47843539
E-mail address: mpetracic@vuka.hr

Prof. Mato Bartoluci, PhD
University of Zagreb, Faculty of Economics & Business/ Department of Tourism,
J.F. Kennedy Square 6, HR 10000 Zagreb, Croatia
Phone: +385 1 238 3471, Fax: +385 1 233 5633
E-mail address: mbartoluci@efzg.hr

Prof. Ines Milohnić, PhD
University of Rijeka, Faculty of Tourism and Hospitality Management,
Primorska 42, 51410 Opatija, Croatia
Phone: +385 51 294 685, Fax: +385 51 291 965
E-mail address: ines.milohnic@fthm.hr

IMPORTANCE OF ENTERPRISES IN SUSTAINABLE DEVELOPMENT OF RURAL TOURISM OF CONTINENTAL CROATIA

VAŽNOST PODUZETNIŠTVA U ODRŽIVOM RAZVOJU RURALNOG TURIZMA KONTINENTALNE HRVATSKE

ABSTRACT

Today, in the twenty-first century, rural tourism is a topic that is increasingly discussed in professional and scientific literature. However, its terminological definition is still insufficiently defined as any other occurrences and terms that are related to it. The aim of the paper is to research the theoretical issues of rural tourism development and the role and significance of the elements important for entrepreneurs in the sustainable development of rural tourism in continental Croatia. The purpose of the research is to determine whether rural tourism entrepreneurs consider networking in clusters and the creation of an integrated tourist product for specific forms of tourism important. General scientific methods such as desk research, analysis, synthesis, compilation arev used in the paper, and for the primary research the method of descriptive statistics is used. Spearman's correlation coefficient was used to test statistically significant correlations between the importance elements for entrepreneurs. Data collected through primary research were analysed by appropriate statistical methods using the software program for social sciences Minitab, Ver. 17, which provides various forms of statistical analysis such as descriptive statistics, factor analysis, regression analysis, variance analysis. The basic starting point for the hypothesis is that the long-term sustainable development of rural tourism in continental Croatia can be achieved through greater entrepreneurial engagement through networking of entrepreneurs in clusters and the creation of an integrated tourist offer of different types of tourism. The rural tourism offer is very scarce and highly oscillated in its quality, which is attributed to a bad entrepreneurial initiative and national policy of neglecting tourist development of this area. Investment projects are the basis for introducing the principle of sustainable development of rural tourism in continental tourist destinations. In order to apply the principles of sustainable development, existing and new projects should respect the ecological, socio-cultural and the economic principles of sustainable development of the destination. By integrating entrepreneurs dealing with rural tourism and providing assistance with financial programs, an integrated tourism product of rural tourism and *complementary specific forms of tourism would be developed to achieve long-term sustainability of entrepreneurial projects. In the development of rural tourism, it is necessary to apply the concept of sustainable development based on the fundamental features on which it rests.*

Key words:*continental Croatia,entrepreneurship, sustainable development of rural tourism.*

SAŽETAK

Danas, u dvadeset i prvome stoljeću ruralni turizam je tema koje se sve češće dotiču rasprave u stručnoj i znanstvenoj literaturi. Međutim, još uvijek je nedovoljno definirano njegovo terminološko određenje kao i sve ostale pojave i termini koji se dovode s njime u vezu. Cilj rada je usmjeren na istraživanje teoretske problematike razvoja ruralnog turizma te uloge i značaja elemenata važnosti za poduzetnike pri poslovanju u održivom razvoju ruralnog turizma u kontinentalnoj Hrvatskoj. Svrha istraživanja je utvrditi da li poduzetnici u ruralnom turizmu smatraju važnim umrežavanje u klastere te kreiranje integriranog turističkog proizvoda specifičnih oblika turizma. U radu su korištene opće znanstvene metode poput istraživanja za stolom, analize, sinteze, kompilacije, a za provedeno primarno istraživanje korištena je metoda deskriptivne statistike. Za testiranje statistički značajnih veza između elementa važnosti za poduzetnike upotrijebljen je Spearmanov koeficijent korelacije. Podatci prikupljeni primarnim istraživanjem analizirani su odgovarajućim statističkim metodama uz pomoć softverskog programa za društvene znanosti Minitab, Ver. 17., koji omogućuje različite oblike statističke analize kao što su deskriptivna statistika, faktorska analiza, regresijska analiza, analiza varijance. Temeljno polazište postavljene hipoteze rada je dugoročni održivi razvoj ruralnog turizma u kontinentalnoj Hrvatskoj može se postići većom poduzetničkom incijativom kroz umrežavanje poduzetnika u klastere i kreiranjem integrirane turističke ponude različitih specifičnih oblika turizma. Turistička ruralna ponuda je vrlo oskudna i jako oscilira u svojoj kvaliteti što se pripisuje lošoj poduzetničkoj inicijativi i nacionalnoj politici zanemarivanja turističkoga razvoja toga prostora. Investicijski projekti su osnova za uvođenje u primjenu načela održivog razvoja ruralnoga turizma na kontinentalnim turističkim destinacijama. Da bi se primijenila načela održivog razvoja, postojeći i novi projekti trebaju poštivati ekološka načela održivog razvoja, sociokulturna načela te ekonomska načela održivog razvoja destinacije. Udruživanjem poduzetnika koji se bave ruralnim turizmom i osiguravanjem pomoći financijskim programima razvio bi se integrirani turistički proizvod ruralnoga turizma i njemu komplementarnih specifičnih oblika turizma čime bi se postigla dugoročna održivost poduzetničkih projekata. U razvoju ruralnoga turizma nužna je primjena koncepta održivog razvoja zbog temeljnih obilježja na kojima počiva.

Ključne riječi*: kontinentalna Hrvatska, održivi razvoj ruralnog turizma, poduzetništvo.*

1.Introduction

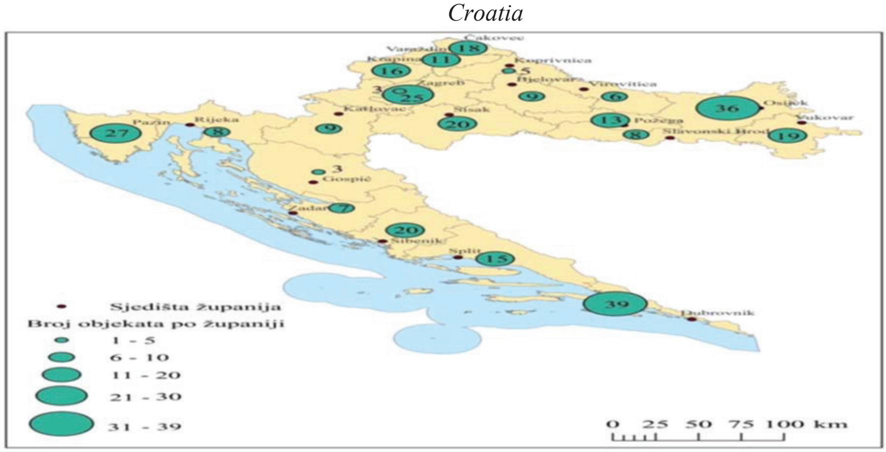
Croatia's rural tourism should and could play a much larger role than what it currently has with regard to the volume of space it covers. According to the Ministry of Agriculture, Fisheries and Rural Development (2014), 90% of the total area of the Republic of Croatia is rural area. This area does not have more than 100,000 inhabitants in 6,756 settlements in all counties, so it can be concluded that they are mostly evacuated and unsuitable for everyday life (CBS, SLJH, 2016). Towns and settlements in the counties that are connected to the sea are not so spatially widespread as in central and eastern Croatia.

Over the last twenty years, rural tourism has grown into not only an important part of an integrated tourist product, but also into an extremely important segment of tourist recognizability of many countries. The approach to its development differs significantly from country to country, in most of the countries with developed tourism which are relevant to Croatia, the same as it differs in the institutional and legal framework in which rural tourism takes place, including the terminology used in it. (Baćac, 2011). Countries of the European Union that offer a specific form of agrotourism are Austria, Italy and Spain, while the countries that in their offer combine rural tourism and

agrotourism are: France, Ireland and Portugal (Ciolac et al., 2015). For many EU countries agrotourism is a successful tool for revitalizing rural areas, aiming for a sustainable future through retention of people in these areas and their employment (Vasquez et al., 2008; Zarski et al., 2005; Ciolac et al., 2013).
According to a survey carried out by the Croatian Chamber of Economy in 2012 and considered the only relevant one, the most developed rural tourism is present in the Istra, Osijek-Baranja and Dubrovnik-Neretva counties (Miškin, Mađer, 2008: 8). Rural tourism in Croatia makes up less than 2% of the total tourist activity. The most developed segment is one that takes place in the village and is linked to the activities of the rural life style. It implies an occasional departure to a rural environment which, apart from the unpolluted air and the natural attractiveness of the space, offers guests a variety of opportunities to direct activities from the life and work of the rural family farm as well as the involvement in various ceremonies and festivals of the local rural population. In the past, people travelled to rural areas for hiking, hunting and fishing, health, forest harvesting and the like (Kantar, 2016: 63). Rural economies or properties, considering the quality of the service they provide, are classified into categories according to a certain standardization. Standardization contributes to recognizability and the creation of a specific, well-known quality of service offered in each of its homestead households.

The Republic of Croatia does not maintain a single register of all types of accommodation facilities intended for rural tourism. However, it is necessary to point out that due to the lack of statistical data on the status of rural tourism in Croatia, the relevant indicators are only those of 2012 published by the Croatian Chamber of Economy according to their research. The obvious problem for the overall development of rural tourism lies in the fact that business entities which operate in continental Croatia are less represented than the Adriatic region, it is well known that Dubrovnik-Neretva and Istra County are the most developed in this form of tourism. According to the 2015 National Rural Tourism Catalogue, which contains a consolidated list of all rural tourism providers, there is information on the actual state of facilities in individual counties. Large spatial dispersion is evident from the document given the number of facilities in individual counties (Figure 1). The largest number of rural tourism providers is located in Dubrovnik-Neretva (39) and Osijek-Baranja County (36), and the number of facilities is still significant in Istra (27) and Zagreb County (25), while the smallest number of service providers are located in the area of Lika, Gorski Kotar and Podravina (Galijan, Selić, Zelenika, 2017: 18).

Figure 1 *Spatial Distribution of Service Providers in Rural Tourism by Counties of the Republic of Croatia*



Source: Galijan, V. et al., Analiza prostorne distribucije i ponude ruralnog turizma u Republici Hrvatskoj, Sveučilište u Zagrebu, Prirodoslovno – matematički fakultet, Zagreb, 2017., str. 18.

From the data presented, it is apparent that a total of 195 service providers in rural tourism operate in the territory of continental Croatia, i.e. in the thirteen counties that are represented in the area. The predominance of Osijek-Baranja County with 36 facilities, followed by Zagreb by 25, the third place is held by Sisak-Moslavina County with 20 facilities, while the smallest number of facilities operating for the needs of rural tourism in the area of continental Croatia are in Virovitica-Podravina County with only six facilities. If you look at the Adriatic region there are 119 facilities in the territory which are used for the purpose of rural tourism, it is clear that the Dubrovnik-Neretva County is the predominant with 39 facilitiesfollowed by Istra (27 facilities), Šibenik-Knin (20 facilities), and the smallest number is present in Lika-Senj county with three facilities operating in the area. The total number of facilities operating in the Republic of Croatia and destined for the needs of rural tourism according to the national catalogue are 314 business entities.

Based on the previously presented historical review of rural tourism development and its role and significance in the development of rural areas, it can be concluded that rural tourism is still in its beginnings and presents a challenging economic activity related to villages and rural areas. The introduction of modern technology in the business of rural entrepreneurs and encouraging and strengthening the development of tourism in continental Croatia by the government would become prerequisites for the recovery of economic and social activities of the rural area.

2. The role of entrepreneurship in the sustainable development of rural tourism in continental Croatia

Rural tourism is a blend of small entrepreneurial projects that are locally owned and under local control (Lane, in Butts and Briedenhann, 2006: 110). Rural tourism in Croatia offers numerous opportunities for the development of small entrepreneurial projects related to specific forms of tourism such as countryside, hunting and fishing, health, cultural, religious, sport-recreational, wellness, gastronomic or enophilic tourism (Kesar in: Bartoluci, Čavlek, 2007: 52). At the same time, a more specific types of tourism can be developed in a rural tourism destination, some of which can be leading and recognizable, while others may play an additional role in the overall offer (Bartolucci and Škorić, 2009: 1). The economic goals of these entrepreneurial projects are related to the realization of basic or supplementary income and employment primarily of family members. With all the opportunities provided by such entrepreneurial projects, entrepreneurs need to be aware of all possible negative impacts and risks. Tourism in rural areas is sometimes conceived as "the easy way to economic development", which is often overstated (Hall and Jenkins, 1998: 138). Entrepreneurs generally lack capital, knowledge, and managerial skills to successfully manage and implement entrepreneurial projects (Butts and Briedenhann, 2006: 116). Some authors rightly emphasize that rural tourism is dominated by the predominant "small scale economy and fragmented nature of business" which doesn’t allow the growth (Petrić, 2006: 148). That is, entrepreneurial projects in rural tourism have lower profitability and lower return on investment, and the entrepreneur needs to get acquainted with it before joining the entrepreneurial project. Rural tourism can be developed in tourist destination as a basic tourist activity of entrepreneurs or as an additional activity in the rural economy. If it comes to basic business, rural tourism projects must be economically viable, meaning that it is necessary through concrete investment projects to prove their profitability and economic efficiency, which is a prerequisite for achieving long-term economic sustainability of projects. For example, these may be small family hotels and catering activities that are open throughout the year. If they are developed as an additional activity, rural tourism projects can be part of family business/farm together with agriculture, crafts, and other activities as their complement. This additional activity can be done seasonally or throughout the year. With its share in the (total) tourist offer, in all its importance, rural tourism in the Republic of Croatia can not nearly change the role of mass tourism but it is significant as a complementary tourist product in creating new quality and competitive position in the tourist market. Rural tourism, as a concept of tourism development, has greater opportunities to apply the criteria of sustainable development as a development option from mass tourism. Consequently, the concept of sustainable development of rural tourism is the most attractive option in managing an attractive area in the destination, especially in the continental Croatia.

3. Methodology of empirical research

Since this paper deals with the issue of rural tourism in continental Croatia, the work is spatially analyzed in 13 continental counties (Bjelovar-Bilogora, Brod-Posavina, Karlovac, Koprivnica-Križevci, Krapina-Zagorje, Međimurje, Osijek-Baranja, Požega-Slavonia, Sisak-Moslavina, Varaždin, Virovitica-Podravina, Vukovar-Srijem i ZagrebCounty), which are by their characteristics and features predominantly rural because most settlements in this area, with the exception of county centres, generally have no more than 100,000 inhabitants and have major problems with depopulation and deagrarization. However, the City of Zagreb is not included in this analysis because of its extremely strong urban character of tourism. The analysis is not carried out in the coastal counties of the Republic of Croatia, regardless of the fact that they have rural areas and because of the completely different character of tourism developed in places connected to the coast and the islands where the main motive of tourists' arrival is the sun, sea, sand, passive rest and other. In these counties rural tourism is developed completely differently than in continental Croatia.

For the purpose of this paper general scientific methods of deduction and analysis for the interpretation of secondary data sources have been used, and for the primary study the method of descriptive statistical analysis has been used. Spearman's correlation coefficient has been used to test statistically significant correlations between the elements of importance for entrepreneurs. Data collected through primary research has been analysed by appropriate statistical methods using the software program for social sciences Minitab, Ver. 17, which provides various forms of statistical analyses such as descriptive statistics, factor analysis, regression analysis, variance analysis.

Secondary data have been collected from official statistical reports, scientific and professional articles of domestic and foreign authors and relevant internet sites. The main hypothesis of this research is that the long-term sustainable development of rural tourism in continental Croatia can be achieved through a larger entrepreneurial initiative through networking of entrepreneurs in clusters and the creation of an integrated tourist offer of different types of tourism. In order to prove this hypothesis, primary research has been conducted by interviews of randomly selected entrepreneurs operating in rural tourism in continental Croatia. The questionnaire as an instrument of empirical research contained a total of 22 questions of which some were closed and some open type and formally can be grouped into 6 thematic groups:

1. reasons and criteria for launching entrepreneurial projects in rural tourism;
2. sources of financing and investments in rural tourism entrepreneurship;
3. the profitability of entrepreneurial projects;
4. assessment of existing tourism demand;
5. sociodemographic characteristics of the respondent/participant;
6. data on a business entity.

The questionnaire was designed to cover the basic elements of entrepreneurship in rural tourism. That is why it is divided into two parts. The first part refers to issues which are based on entrepreneurship in rural tourism where owners had to evaluate their entrepreneurial projects through a questionnaire. The last part of this questionnaire contained basic data on the respondent/participant personally as well as on the business entity they own or have invested in.

The research instrument for collecting primary data was a pre-structured questionnaire conducted from September to October 2017. The questionnaire related to the research of entrepreneurship programs in rural tourism in continental Croatia.

This paper explores the role and importance of entrepreneurship in the sustainable development of rural tourism in the area of continental Croatia.

4. Results of empirical research

In the empirical part of the research, an analysis was carried out to explore the tourism and economic valorisation of entrepreneurial projects of rural tourism in the function of sustainable tourism development in continental Croatia. Out of a total of 30 respondents (investors owners), sample consisted of 11 (36.67%) male respondents and 19 (63.33%) female respondents. Most of the respondents are between the ages of 31 and 50 (63.33%). The average age of surveyed entrepreneurs was 39.8 years, and the standard deviation from the average age was 11.17 years. Additionally, it should be noted that the proportion of respondents within the vocational qualification is: 60% have the secondary education, 23% of the respondents have a university degree, and only 3% of the respondents have completed a master's degree. It is concluded that most of the owners covered by this research have secondary education, which greatly contributes to the contribution of the development of rural tourism.
Primary research which was conducted on a selected sample of respondents concluded that entrepreneurs operating in rural tourism in continental Croatia agree that the most important elements for doing business are state bureaucracy and legislation that is too demanding for entrepreneurs (86.6%), and rural development tourism as an integrated tourist product of specific forms of tourism (80%). Elements which were presented in the form of statements include models, disadvantages and advantages of doing business in rural tourism in continental Croatia.

***Table 1** Elements of importance for doing business for entrepreneurs in rural tourism*

Items	I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
H. State bureaucracy and legislation are too demanding for entrepreneurs.	6.7%	3.3%	3.3%	23.3%	63.3%
I. Tax and other government regulations are understandable for entrepreneurs.	26.7%	56.7%	13.3%	0	3.3%
J. Anyone who needs help from national programs for entrepreneurs can find what he/she needs.	16.7%	46.7%	33.3%	3.3%	0
K. In the area where I do business, infrastructure (roads, buildings, communications ...) provides the right support to start new business.	13.3%	43.3%	36.7%	6.7%	0 0
L. In the area where I am do business development opportunities are good.	6.7%	43.3%	33.3%	16.7%	0
M. In the area where I do business there is tourist attractiveness.	10.0%	20.0%	20.0%	26.7%	23.3%
N. History and tradition play a very important role in our family business.	6.7%	16.7%	30.0%	23.3%	23.3%
O. Rural tourism in the Republic of Croatia can be developed as an integrated product of specific forms of tourism.	0	10%	10%	40%	40%

Source: Primary Research, (2017)

Furthermore, the majority of respondents, 19 (63.3%), strongly agree with the statement that bureaucracy and legislation are too demanding for rural tourism entrepreneurs,moreover, half therespondents state that tourist attractions, history and tradition are very important for success in entrepreneurship, and the highest level of disagreement among the participants, as many as 25 (83.33%) of the respondents, show that the tax and other government regulations are not understandable for entrepreneurs. The correlation coefficients between observed variables are estimated on the basis of sample N = 30 and the correlation coefficients that are statistically significant at the level of significance of 5%, respectively those for which the empirical level of significance is less than 0.05 are presented in Table 2.

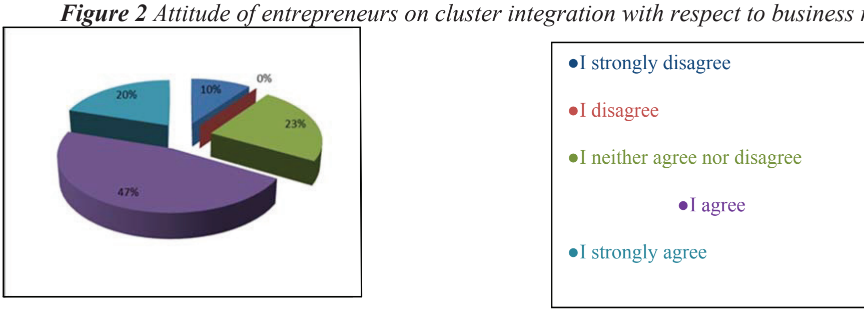
Table 2 *Comparison of the statistical significance of correlation of elements that are important for entrepreneurs*

Correlations: **H; I; J; K; L; M; N; O**								
	H	**I**	**J**	**K**	**L**	**M**	**N**	**O**
I	0.117							
	0.538							
J	0.257	**0.536**						
	0.170	**0.002**						
K	-0.320	0.219	0.031					
	0.085	0.245	0.870					
L	0.210	0.019	-0.063	-0.030				
	0.266	0.921	0.743	0.875				
M	-0.030	-0.205	-0.112	0.043	**0.641**			
	0.874	0.278	0.554	0.821	**0.000**			
N	0.000	-0.153	-0.285	-0.189	0.291	0.299		
	1.000	0.420	0.127	0.318	0.119	0.108		
O	**0.591**	-0.080	0.060	-0.360	0.303	0.190	0.347	
	0.001	0.673	0.751	0.051	0.104	0.314	0.060	

Source: Primary Research, (2017)

There is a moderately strong correlation between variable H (State bureaucracy and legislation aretoo demanding for entrepreneurs) and variable O (Rural tourism in the Republic of Croatia can bedeveloped as an integrated product of specific forms of tourism), among variables I (Tax and othergovernment regulations are understandable for entrepreneurs) and J (Anyone who needs help fromnational programs for entrepreneurs can find what he/she needs.), and between variables L (In thearea where I am do business development opportunities are good) and M (In the area where I dobusiness there is tourist attractiveness.). When deciding on the degree of business success ofentrepreneurs in rural tourism, statements have been made to show the results presented.

Figure 2 *Attitude of entrepreneurs on cluster integration with respect to business results*



Source: Primary Research, (2017)

Furthermore, the research covered the issue of integrating entrepreneurs into clusters and their impact on entrepreneurship's profitability, and the statement was as follows: "My profitabilitywould be better if I was integrated into a cluster with other service providers." According to thefindings, the participants from the sample on average agree with this statement. In detail, two-thirdsof the participants agree that by joining into clusters with other service providers in rural tourism incontinental Croatia they would have achieved better business results, while the rest of theparticipants have a different standpoint. It is significant that 10% of the participants disagreed withthe statement on importance of clustering, as shown in Figure 2. For testing the set hypothesis up, atest on proportions was performed.
Under the condition that:

$$H_0 : p \leq 0,5$$
$$H_1 : p > 0,5$$

Table 3. Test of proportion of integration of entrepreneurs in clusters

Test of p = 0,5 vs p > 0,5				
Sample	X	N	Sample p	P-Value
1	20	30	0.666667	0.034

Source: Primary Research, (2017)

The sample ratio is p = 0.666667, and the empirical level of significance of the test (ρ-value) is 0.034. If the test is performed with the significance level of $\alpha = 5\%$, the zero hypothesis is rejected and the H1 statement is accepted (since ρ-value <0.05). It can be concluded that more than 50% of entrepreneurs in the population believe that in their business they would attain better results in profitability if they would join the cluster with other rural tourism service providers. Based on the aforementioned, the conclusion can be drawn confirming the hypothesis of this paper which says the long-term sustainable development of rural tourism in continental Croatia can be achieved through a larger entrepreneurial initiative through the networking of entrepreneurs in clusters and the creation of an integrated tourist offer of different types of tourism.

5. Conclusion

The aim of this paper was to explore the theoretical problems of rural tourism development and therole and significance of elements of importance for entrepreneurs while doing business in thesustainable development of rural tourism in continental Croatia. For this purpose, a survey oftheoretical features of rural tourism and a specially achieved degree of rural tourism development in continental Croatia was carried out. At the same time, an empirical study was carried out on the importance elements for entrepreneurship in rural tourism in order to achieve its long-term sustainability. The results of the survey showed that entrepreneurs, as the most important elements for their rural tourism business emphasized state bureaucracy and legislation that is too demanding for them and the development of rural tourism as an integrated product of specific forms of tourism that would be achieved by networking entrepreneurs in clusters. As a result, the hypothesis of this research was confirmed. Rural tourism in the Republic of Croatia can be achieved through a larger entrepreneurial initiative through the networking of entrepreneurs in clusters and the creation of an integrated tourist offer of different types of tourism. Based on this, it is possible to conclude that rural tourism is a long-term key to the success of entrepreneurs in the rural area of continental Croatia.

REFERENCES

Baćac, R., (2011): **Priručnik za bavljenje seoskim turizmom – korak po korak od ideje do uspješnog poslovanja**, Ministarstvo turizma Republike Hrvatske, Zagreb, Dostupno na: http://www.mint.hr/UserDocsImages/Prirucnik_Seoski_turizam.pdf (28.11.2015.)

Bartoluci, M. (2013): **Upravljanje razvojem turizma i poduzetništva**, Školska knjiga, Zagreb

Bartoluci, M., Čavlek, N. i suradnici (2007): **Turizam i sport – razvojni aspekti**, Školska knjiga, Zagreb

Bartoluci, M., Škorić, S. (2009): **Menadžment sportskog i nautičkog turizma**, Veleučilište u Karlovc, Karlovac

Butts, S., Briedenhann, J. (2006): **Rural tourism: project, environment and viability**, Acta Turistica, Vol.22, No. 2, Zagreb

Ciolac, R., Csosz, I., Petroman, C., Petroman, I., Marin, D., Dincu, A. M.,Rujescu, C. (2013): **Agro-Tourism and the Farm Products Exploited Through Itsinthe Alps Mountains-Case Study Trento Province, Italy**, Lucrari Stiintifice, Seria I, XV (4), pp. 171-174

Ciolac, R., Csosz, I., Petroman, I., Petroman, C., Iancu, T., Hurmuzache, T.,Dincu, A. M., Marin, D. (2015): **Research Regarding the Evolution of Agrotourism in Several European Representative Destinations**, Animal Science and Biotechnologies 48 (1), pp. 316-319

Demonja, D.,Ružić, P. (2010): **Ruralni turizam u Hrvatskoj s hrvatskim primjerima dobre prakse i europskim iskustvima**, Meridijani, Zagreb

DZS, (2016): **Turizam u 2015**., Statističko izvješće br. 1564, Zagreb, https://www.dzs.hr/Hrv_Eng/publication/2016/SI-1564.pdf ,(20.10.2016.)

Galijan, V. et al. (2017): **Analiza prostorne distribucije i ponude ruralnog turizma u Republici Hrvatskoj**, Sveučilište u Zagrebu, Prirodoslovno – matematički fakultet, Zagreb, str. 18.

Hall, CM., Jenkins, J.M. (1998): **The Policy Dimensions of Rural Tourism and Recreation**, Chinster, John Wiley

Kantar, S. (2017): **Razvoj održivoga ruralnoga turizma: potencijali Koprivničko-križevačke županije**, doktorska disertacija, Filozofski fakultet, Zagreb

Petračić, M. (2018): **Poduzetnički projekti u održivom razvoju ruralnog turizma,** doktorska disertacija, Fakultet za menadžment u turizmu i ugostiteljstvu, Opatija

Petrić, L. (2006): **Izazovi razvoja ruralnog turizma – dosadašnja praksa u Europi i reperkusije na Hrvatsku**, Acta turistica, Vol. 8. No. 2. pp.138-170

Vazquez, J. L., Gutierrez, P., Naghiu, A., Purificacion García, M. (2008): **Developing Environmental Management Strategies in Agrotourism: An Empirical Evicencein Spanish Establishments**, Analele Universitatii Din OradeaFascicula: Ecotoxicologie, Zootehnie Si Tehnologii De Industrie Alimentara VII (7), pp. 795-803

Zarski, T., Klimaszewski, K., Dworakowski, R. (2005): **Agri-Environmental Measures, Animal Welfareand Agrotourism - PolishFarmers' View**. Warsaw, Poland, ISAH 2005 2, pp. 157-160

Damir Šebo, PhD
Fakultet za dentalnu medicinu i zdravstvo Osijek
Crkvena 21, 31000 Osijek
Phone: 0912241442
E-mail address: damir.sebo@fdmz.hr

Doc. Ivan Miloloža, PhD
Fakultet za dentalnu medicinu i zdravstvo Osijek
Crkvena 21, 31000 Osijek
Phone: 031399600
E-mail address: ivan.miloloza@fdmz.hr

Pavao Gagro, Ph.D. candidate,
Public Notary Ružica Gagro
Trg kralja Tomislava 10, 31550 Valpovo
Phone: 0981636842
E-mail address: pavao.gagro@gmail.com

THE IMPACT OF QUALITY MANAGEMENT IN PUBLIC PROCUREMENT SYSTEM OF UNIVERSITY ON REGIONAL DEVELOPMENT

UTJECAJ UPRAVLJANJA KVALITETOM U SUSTAVU JAVNE NABAVE SVEUČILIŠTA NA REGIONALNI RAZVOJ

ABSTRACT

The public procurement procedure is regulated by the Public Procurement Act and by-laws in the field of public procurement. The Public Procurement Act is harmonized with the acts, i.e. the EU Directives.
There are several types of procedures for the implementation of public procurement in the Republic of Croatia, selection of which depends on the contracting authorities, but also on the legal provisions expressly stipulating the nature of the proceedings under certain circumstances. The public procurement procedure implemented in compliance with all the principles of public procurement, in particular the principles of transparency and cost-efficiency, in current circumstances in the Republic of Croatia, can restore the public confidence in the system, i.e in fair and rational spending system of budget funds. The unified procurement system is increasingly developing, which is also important in terms of saving and enhancement of good practice. Recently, the quality management in the public procurement system becomes a key element of the anticorruption segment. It is necessary to r implement the quality management system as better as possible through self-control and correction of errors in the system in order to make the public procurement system at universities more transparent and quality and to make the end users more satisfied with the procurements.
The research methodology is based on the survey method that will present the current state of implementation of the quality system in the public procurement system at universities with a special focus on the eastern Croatia. In addition to this method, methods of analysis, synthesis and comparison will be used for the purpose of proving / rejecting the hypotheses.
The aim of the paper is to outline the quality management system as very important for the public procurement system at public universities in the Republic of Croatia and to provide recommendations for future activities in the function of regional development.

Key words: *Quality management, public procurement, universities, regional development, Republic of Croatia.*

SAŽETAK

Postupak javne nabave uređen je Zakonom o javnoj nabavi i podzakonskim propisima iz područja javne nabave. Zakon o javnoj nabavi usklađen je s aktima, odnosno Direktivama Europske unije.
Za provođenje javne nabave u Republici Hrvatskoj postoji nekoliko vrsta postupaka, čiji odabir ovisi o naručiteljima koji provode postupke, ali i o zakonskim odredbama koje izričito propisuju vrstu postupka u određenim okolnostima. Postupak javne nabave proveden uz poštivanje svih načela javne nabave, posebice načela transparentnosti i ekonomičnosti, u okolnostima kakve su trenutno u Republici Hrvatskoj, može vratiti povjerenje javnosti u sustav, odnosno u pošten i racionalan sustav trošenja proračunskih sredstava. Sve više se razvija i sustav objedinjene nabave, koja je također važna s aspekta ušteda i razvijanja dobre prakse. U posljednje vrijeme se daje veliki značaj upravljanju kvalitetom u sustavu javne nabave što je ključan antikoruptivni segment sustava. Nužno je što bolje implementirati sustav upravljanja kvalitetom s samokontrolom i ispravkama pogrešaka u sustavu kako bi sustav javne nabave na sveučilištima bio transparentniji i kvalitetniji te kako bi krajnji korisnici bili zadovoljniji nabavljenim.
Metodologija istraživanja se temelji na metodi anketiranja koja će prikazati trenutno stanje implementacije sustava kvalitete u sustavu javne nabave na sveučilištima s posebnim osvrtom na istočnu Hrvatsku. Uz navedenu metodu će se koristiti i metode analize, sinteze i komparacije u svrhu dokazivanja / opovrgavanja postavljene hipoteze.
Cilj rada je prikazati sustav upravljanja kvalitetom kao vrlo bitan za sustav javne nabave na javnim sveučilištima u Republici Hrvatskoj i davanjem preporuka za buduća djelovanja u funkciji regionalnog razvoja.

Ključne riječi: *upravljanje kvalitetom, javna nabava, sveučilišta, regionalni razvoj, Republika Hrvatska.*

1. Introduction

The quality concept means an error-free product or service, continuous improvement and focus on the end user.

There are many definitions of quality, but perhaps the very best is this very short definition: "Quality is the end user's satisfaction".
The aim of this paper is to show how quality management in the university's public procurement system affects the regional development.

In the Republic of Croatia, public procurement is a field that is increasingly developing both from a legal and an economic point of view. The public procurement centre is a public procurement procedure whose formal procedure is regulated by the Public Procurement Act and other by-laws in the field of public procurement. The Public Procurement Act is fully harmonised with the acts, i.e. the EU Directives. Amendments to certain provisions of the Public Procurement Act have contributed to flexibility, thus facilitating the treatment of contracting parties and potential tenderers in public procurement procedures. (Šebo, 2017, 1)

The hypothesis of the research is as follows:
H: Quality management system is very important for the public procurement system at public universities in the Republic of Croatia.
The aforementioned hypothesis will be tested by appropriate scientific methods.

2. Public Procurement

The Public Procurement Act represents the general normative framework regulating the public procurement system in the Republic of Croatia since 1 January 2017. It establishes the rules for the public procurement procedures conducted by a public or a sector contracting authority or other entity in defined cases for the purpose of concluding public supply contracts of good, works or services, framework agreement and the implementation of a design contest. The Public Procurement Act also contains provisions on legal protection in relation to these procedures and prescribes the competencies of the central state administration body for public procurement policies.

Given the objectives of the solutions contained in the new EU directives, their transposition into the Croatian legislative will result in significant reduction and simplification of procedures in the field of public procurement, reduction of administrative burden both on the side of contracting authority and on the side of the bidder, and especially by reducing the costs of participation in the public procurement procedures of small and middle-sized entrepreneurs who may not have the appropriate administrative and professional capacities. (Šebo, 2017, 28)

2.1. Principles of Public Procurement

In the implementation of public procurement procedures under this Act, in relation to all economic operators, contracting authority shall respect the principle of freedom of movement of goods, the principle of freedom of establishment and the principle of freedom to provide services and the principles deriving therefrom, such as the principle of competition, the principle of equal treatment, the principle of non-discrimination, the principle of mutual recognition, the principle of proportionality and the principle of transparency.

Public procurement should not be designed with intent to avoid the implementation of this Act or to avoid the implementation of the public procurement rules of low or high value, or with the intent to ensure unjustified advantages to certain economic operators or put them in an unfavourable position.

The contracting authority is obliged to apply the provisions of this Act in a manner that provides efficient public procurement and the economical and purposeful use of public funds.

During performance of a public contract, the economic operator is obliged to comply with the applicable obligations in the field of environmental, social and labour law, including collective bargaining, and in particular the obligation to pay the agreed salary or the provisions of international law on the environment, social and labour law..[1]

3. Quality Management at Universities

Higher education institutions in the Republic of Croatia have 30 specialist studies, several doctoral studies and nearly identical studies within the same university. In addition, there is a high degree of specialization of study programmes and the division in excessive number of majors and orientations in relation to the weak absorption power of the economy due to which bachelors, magistrates and doctors often find employment out of their profession.

The quality of higher education largely depends on study programmes because they represent the framework within which students start or continue studying with previously acquired skills and knowledge. If there is a quality management system, the programmes are periodically updated

[1] The Public Procurement Act, Official Gazette 120/2016, Article 4.

under the influence of experience of higher education institutions, and changes and progress in certain areas of study programmes. However, quality of a study programme depends equally on the quality of its preparation as well as on its implementation. In other words, a good study programme will enable students to achieve learning outcomes that match the level and field of their academic title. (Šebo, 2017, 89-90).

Through quality management in higher education, universities can contribute to the economic development in a way that through postgraduate doctoral studies encourage learners to give their scientific contribution to the regional development. After graduation, students also acquire knowledge and skills that can directly contribute to the development of the regional economy. The Faculty of Economics of the Josip Juraj Strossmayer University in Osijek organized the International Scientific Symposium "The Economy of Eastern Croatia - Vision and Development" for the seventh year in order to contribute to the development of the economy of Eastern Croatia. In this way, the scientific community based on research and concrete solutions contributes to the regional development.

3.1. Quality

Quality definitions differ from many points of view; philosophical, productive, ecological, user and so on, which is why there is no clear consensus on the concept of quality (Krakar, 1993, 34-35). Pounder even describes the quality as a "notoriously vague term" given that it has different meanings to different stakeholders (Pounder, 1999, 156). The most evident definition of quality is given by Lazibat, who defines quality as customer's satisfaction (Lazibat, 2005, 151). Sanjay Saxena, a quality expert, member of the Institute of Electrical and Electronic Engineering (IEEE) and American Quality Society (ASQ), defines quality as a cross-section of three subsystems; usefulness, value and availability (Saxena, 2005).

Individual interpretation of the degree of excellence of a product or service is crucial in assessing quality and making a decision for its payment. Saxena argues that distinguishing quality and assessing its excellence vary from situation to situation, favouring the usefulness and availability of a product or service whose quality is evaluated. However, he also reminds that it often neglects the quality feature that represents the intellectual value of a product or service and completes consumer's perception of an ideal quality. (Šebo, 2017, 8)

As certain quality parameters have been changed on certain markets and in certain time intervals, organizations are forced to continually strive to increase the measurable quality components of their products (services) (Injac, 2002, 88).

3.2. Quality Management System

The quality management system (QMS[2]) is a management technique, i.e. a set of mutually dependent management processes and procedures that serve for the planning and realization of organizational goals and the achievement, maintenance and improvement of the quality of its business. Each quality management system aims at achieving efficient business, customers' (users') satisfaction and product (service) quality but achieving the highest level of all business processes is a task that is often unavailable without their upgrades or combinations of several systems. Achieving the desired quality implies significant changes within the organization, initially by setting up a new business culture and different thinking of management and employees, since only root changes can create a new impression that overwhelms the existing as well as potential consumer.

[2] Quality Management Systems.

The quality standards adopted by the International Organization for Standardization (ISO) [3] which has been, since the beginning of its work in 1947, a network of the most representative national standard bodies around the world represent the symbol of quality for many organizations. In addition, based on its cooperation with many established international organizations (e.g. UN and WTO[4]), ISO standards are recognized international standards for products, services, processes, materials and systems and for conformity assessment, management and organizational procedures. But ISO standards do not only promote quality assurance, but also safety, economy, reliability, efficiency, efficiency, compatibility, environmental protection, etc., and facilitate trade and technology in wider sense (Šebo, 2017, 112-13). Since 1987, according to the most represented group of ISO 9000 - Quality management, internal quality control has been transformed into an integral quality management system (Jolić, 2010, 17). In the same context, ISO 9001 standard refers to the organization's policy of quality management, while the ISO 9004 standard refers to the continuous improvement of business quality.

3.3. Assurance of the Quality of Education System

The establishment of a quality framework for higher education institutions is equally important in the European and internal national field. In the system of higher education, knowledge, skills, skills and qualifications of students must be explicit, especially when the quality framework is once defined and officially accepted.

Assurance of the quality of the education system is one of the priority areas of the evaluation programme under the Bologna Process launched in 1999 with a view to establishing a comparable, compatible and coherent higher education system within the European Higher Education Area (EHEA[5]). Ministers of the signatory states of the Bologna Declaration in the 2003 Berlin Communication referenced on the European Network for Quality Assurance in Higher Education (ENQA[6]) established in 2000 to cooperate with organizations; The European University Association (EUA[7]), the European Association of Higher Education Institutions (EURASHE[8]) and the European Students Association (ESU) created a set of generally accepted standards, procedures and guidelines for quality assurance. It was intended to create a quality system that would allow comparability of higher education institutions and programmes, i.e. to enable the recognition of academic qualifications within the EHEA regardless to the completed programme and the way they are acquired (Lučin, 2007, 7-32).

4. Quality Management in the Public Procurement System at University

Quality policy in the public procurement system is to achieve sustainable, profitable growth by providing services that consistently meet the needs and expectations of its customers. This level of quality is achieved by adopting a system of procedures that reflect the competencies of the higher education institution's services to existing users, potential clients and independent auditors. Achieving this policy involves all employees who are individually responsible for the quality of their work, resulting in a constant improvement of the working environment for everyone. The head of the quality assurance institution or the head of the quality assurance office provide and explain this rule to each employee.

The objectives of the Quality Assurance System in the public procurement system are:

---

[3] International Organization for Standardization - Međunarodna organizacija za normizaciju.
[4] World Trade Organization - Svjetska trgovinska organizacija.
[5] European Higher Education Area
[6] European University Association.
[7] European University Association.
[8] European association of Higher Education Institutions

1. Maintaining an effective quality assurance system in accordance with the international standard ISO 9001 (quality systems).
2. Achieving and maintaining a quality level that enhances the reputation of a higher education institution with system users.
3. Ensuring compliance with appropriate legal and safety requirements.
4. Striving, at every moment, to maximize the satisfaction of end user with the services provided by the public procurement department.

Since a higher education institution operates using the standard type and range of its services, users' satisfaction and quality are achieved by acting in accordance with the documented quality system. Specific end-user requirements are determined and documented during the public procurement process and thus ensuring that these requirements are met, and ensuring that all declared needs of end users are satisfied within the higher education institution. (Šebo, 2017, 91-91)

From the survey conducted, it is apparent that 91.7 % of the surveyed representatives of individual units of the university/universities managing the procurement system, state that there is a quality strategy in their workplace (Table 1).

Table 1 *Frequency of existence of the quality strategy in the university component / university*

Is there the quality strategy in the university?

	N	%	Cumulative
No quality strategy	3	8.3	8.3
Yes. There is adopted quality strategy	33	91.7	100.00
Total	36	100.00	

Source: Authors according to: Šebo, D (2017): Quality management in the public procurement system at the universities in the Republic of Croatia, page 113

The survey found that 44.4% of tested university components/ universities hold ISO 9001 certificate, and 65.6% do not have the ISO 9001 certificate, of which 41.7 % plan to introduce it, while 13.9% do not intend to introduce it (Table 2).

Table 2 *Frequency of holding ISO 9001 certificate*

Do you hold ISO 9001 certificate? What year did you get it? If not, are you planning to introduce it?

	N	%	Cumulative
Yes	16	44.4	44.,4
No. We do not plan to introduce it.	5	13.9	58.3
We plan to introduce it.	15	41.7	100.00
Total	36	100.00	

Source: Authors according to: Šebo, D (2017): Quality management in the public procurement system at the universities in the Republic of Croatia, page 115

Table 3 shows that 58.3% of respondents fully agree that ISO certification helps faculties in creating competitive advantages on the domestic and global market, 52.8% of respondents fully agree with the statement that the introduction of ISO certificate has a positive impact on performance, 63.9% of respondents fully agree with the statement that holding ISO certificate helps to gain a positive image and finally, 61.1% of respondents fully agree with the statement that the quality management system greatly contributes to the quality of the public procurement system at universities, 22.2% somewhat agree with this statement.

***Table 3** Variables that measure the attitude toward ISO certificate*

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	fully agree
	1	**2**	**3**	**4**	**5**
ISO certification helps faculties in creating competitive advantages on the domestic and global market	2.8	5.6	16.7	16.7	58.3
Introduction of ISO certificate has a positive impact on performance	2.8	2.8	19.4	22.2	52.8
Costs of ISO certificate introduction is very high	25.0	11.1	30.6	8.3	25.0
ISO certificate introduction helps in cost rationalization	2.8	0.0	30.6	36.1	30.6
ISO certificate introduction helps to gain a positive image	0.0	2.8	19.4	13.9	63.9
Employees react positively to ISO certificate	0.0	2.8	52.8	13.9	30.6
After introduction of ISO certificate it is necessary to perform quality measurements to show progress	0.0	0.0	16.7	22.2	61.1
Quality management system greatly contributes to the quality of the public procurement system at universities	5.6	5.6	8.3	19.4	61.1

Source: Šebo, D (2017): Quality management in the public procurement system at the universities in the Republic of Croatia, page 115

4.1. The Quality Management System is Very Important for the Public Procurement System at Public Universities in the Republic of Croatia

The research carried out has found that 91.7% of universities and university components have adopted a quality strategy, and 44.4% of the university / university components tested possess the ISO 9001 certification. It is also significant to mention that 41.7% of 65.6% of those who currently do not have the ISO 9001 certificate, plan to introduce it. Furthermore, the survey shows that 58.3% of respondents fully agree that ISO certification helps faculties in creating competitive advantages on the domestic and global market, 52.8% of respondents fully agree with the statement that the introduction of ISO certificate has a positive impact on the success of faculty operations, 63.9% of respondents fully agree with the statement that managing ISO certificate helps to gain a positive image and finally, 61.1% of respondents fully agree with the statement that quality management system greatly contributes to the quality of the public procurement system at universities.

The above data clearly confirm the hypothesis that the quality management system is very important for the public procurement system at public universities in the Republic of Croatia.

5. Recommendations for Future Actions

The introduction of a quality management system in the public procurement system of the university ensures the acquisition of products and services that meet the requirements of users (universities) and also influences the economic development of the region by adapting economic entities (service providers) to quality requirements and thus themselves positively affect the quality of their products and services and thus raise their competitiveness. Therefore, it can be concluded that the introduction of the quality management system at universities encourages other economic entities (manufacturers, service providers) to introduce the quality management system into their business. The greater the number of entities introduce the quality management system and the quality management in the public procurement system results in the better business transparency, and reduced corruption, and, of course, increasing the customers' satisfaction. It is therefore necessary to provide any form of support to economic operators for the introduction of quality management systems. Universities as educational institutions through their education programs should point out to students (prospective future businessmen) the advantages of introducing the quality management system in business and thus affecting regional development.

6. Conclusion

The Public Procurement Act ensures effective and efficient use of money, transparent procedures for the procurement of goods, works or services, prevents corruption and has a positive impact on the economic development in general and on employment. The conducted research confirmed the hypothesis that the quality management system is very important for the public procurement system at public universities in the Republic of Croatia. It has been shown that most universities and university constituents have a quality strategy, and 44.4% of universities have ISO 9001 certification and a large number of respondents intend to introduce it. It can be concluded that universities and their constituents possess a developed awareness of the necessity of introducing a quality management system and that these positive experiences related to quality management should also be passed onto students, regardless their study programme. Quality management in the public procurement system of universities positively influences the university's satisfaction and also has a positive impact on the regional development by encouraging economic entities to match their business to the set quality requirements and thus raise the level of their own competitiveness.

REFERENCES

Injac, N. (2002): ***Mala enciklopedija kvalitete, I. dio – Upoznajmo normu ISO 9000***, Drugo izdanje, Oskar, Zagreb

Jolić, N. (2010): ***Kvaliteta i normizacija*,** http://www.fpz.unizg.hr/njolic/dip/pdf/Kvaliteta_i_normizacija_Predavanja.pdf, (accessed 23 March 2018)

Krakar, Z. (1993): ***Upravljanje kvalitetom***, Infotrend, 12(7)

Lazibat, T. (2005): ***Poznavanje robe i upravljanje kvalitetom***, Sinergija-nakladništvo d.o.o., Zagreb

Lučin, P. (2007): ***Osiguranje kvalitete u Europskom visokoobrazovnom prostoru***, str. 7-32. U: Lučin, P. et al. Kvaliteta u visokom obrazovanju, Nacionalna zaklada za znanost, visoko školstvo i tehnologiju za razvoj Republike Hrvatske, Novena d.o.o., Zagreb

Pounder, J. (1999): ***'Institutional Performance in Higher Education: is quality a relevant concept?', Quality Assurance in Education***, 7(3), str. 156.

Saxena, S. K. (2005): ***A few words on quality***, http://www.discover6sigma.org/post/2005/10/few-words-on-quality/, (accessed 23 March 2018)

Šebo, D. (2017): ***Upravljanje kvalitetom u sustavu javne nabave na sveučilištima u Republici Hrvatskoj***, Ekonomski fakultet Osijek, Osijek

Zakon o javnoj nabavi, Narodne novine 120/2016

MZOS, ***Visoka učilišta***, http://www.mzos.hr/virtus/ucilista (accessed on 23 March 2018)

IRO, 2011a, ***Strateški plan 2011.-2013.***, str. 12, http://www.iro.hr/userdocs/File/kljucni_dokumenti/IRO_Strateski_plan_11-13_hr.pdf, (accessed 23 March 2018)

Vlada RH, 2006a, ***Strateški okvir za razvoj 2006.-2013.***, str. 12-19, http://www.mrrfeu.hr/userDocsImages/Publikacije/Strateski_okvir_za_razvoj_2006_2013.pdf (accessed 23 March 2018)

Kristijan Šimičić, M. Bus.
Edukos Osijek
Vukovarska 10, 31000 Osijek
Phone: +385 98 99 53 696
E-mail address: kristijan.simicic@gmail.com

Dejan Balić, M. Eng.
Stjepana Radića 14, 31000 Osijek
Phone: +385 91 555 22 99
E-mail address:dejan@balic.org

Vinko Samardžić, Ec. S.
Odvjetnički ured Split
Ljudevita Posavskog 12a, 21000 Split
Phone: +385 21 344 744 Fax: +385 21 332 819
E-mail address: vinko@ours.org

A CLUSTER OF HEALTH TOURISM "PANNONIAN HEALTH" AS DEVELOPMENT ACCELERATOR OF EASTERN CROATIA

KLASTER ZDRAVSTVENOG TURIZMA "PANNONIAN HEALTH" KAO AKCELERATOR RAZVOJA ISTOČNE HRVATSKE

ABSTRACT

The aim of this paper is to point out the characteristics of successful clusters through high-quality leadership, the difference of terms competitiveness and competition, and business cooperation of economic entities which are aimed at the development of cluster members but also the networking of other factors in the environment.
Clearly define the mission and vision of the cluster are the starting points for the clearly expressed the purpose and aim of the research.
In this paper are used inductive and deductive methods, method of analysis and synthesis, and the brainstorming method of the individual members of the cluster as well as from the environment in which the cluster will act.
This paper shows the necessity and the advantage of branding the city of Osijek and Slavonia and Baranja as new health destinations. Through the cluster cheaper but better quality medical serviceis achieved, by joint performance and consolidating the activities of the members of the cluster.
The purpose of this paper is to point out the possibility of opening new jobs for all age groups, employment of young people and the return of young people to the eastern Croatia.

Key words: *cluster, medical cluster, development strategy, Slavonia and Baranja, Osijek.*

SAŽETAK

Cilj je ovoga rada ukazati na obilježja uspješnih klastera kroz kvalitetno vodstvo, razliku pojmova konkurentnost i konkurencija te poslovnu suradnju gospodarskih subjekata čiji je cilj razvoj članova klastera, ali jednako tako i umrežavanje ostalih čimbenika u okruženju.
Jasno definiranje misije i vizije klastera polazišta su za jasno izraženu svrhu i cilj istraživanja.
U radukoristi se induktivna i deduktivna metoda, metoda analize i sinteze te metoda brainstorminga pojedinih članova klastera, kao i okruženja u kojima će klaster djelovati.

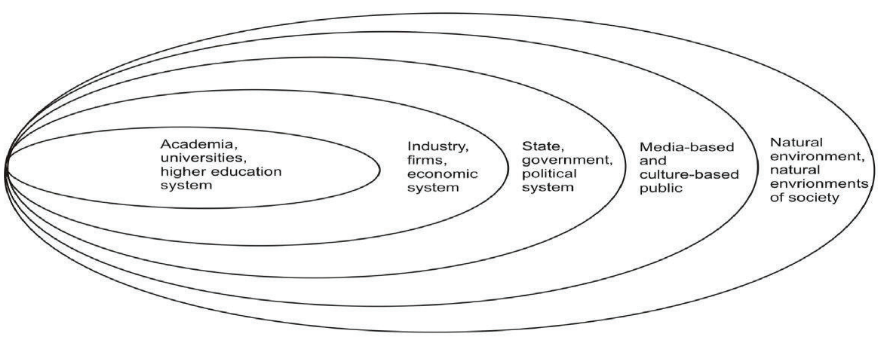
Rad pokazuje potrebu i prednost brendiranja grada Osijeka i Slavonije i Baranje kao nove zdravstvene destinacije. Kroz klaster postiže se jeftinija, ali kvalitetnija medicinska usluga, zajedničkim nastupomi objedinjavanjem aktivnosti članova klastera.
Svrha je rada ukazati na mogućnost otvaranja novih radnih mjesta svim dobnim skupinama, zapošljavanje te povratak mladih u istočnu Hrvatsku.

Ključne riječi:*klaster, medicinski klaster, strategija razvoja, Slavonija i Baranja, Osijek.*

1. Cluster, economic development accelerator

Clusters gained significance in the economic science in the 90s, when their characteristics first appeared in economic literature.
Porter, in his book, "On Competition," states: "The cluster concept is a new way of thinking about state, regional and city economies, and it also points out new roles of firms, governments and other institutions that are struggling to increase their competitive strength. Clusters represent the driving force of growth and development and are magnets for attracting foreign investments."(Porter, 1998, p. 357)
Clusters can be defined in several ways depending on their content and their goals. Considering the aforementioned: „Clusters are legal entities, geographic concentrations of interconnected companies, specialized suppliers, service providers, companies in related sectors and affiliated institutions in competing areas that also cooperate.“ (Ministry of the Economy, 2011, p. 5)
The general model of an organization that differentiates the cluster from other forms of association is the dominant „triple helix“ model that is applied in different types of clusters. Today we have come to the Quintuple helix model that connects five different systems (forces).

Picture 1 *Quintuple helix model*



Source: (Carayannis, 2012)

"Entrepreneurial clusters of economic entities belonging to the same business or to the several comparative businesses have the need to adapt to the global market and therefore project and set up such an organizational structure that enables them to develop market activities in one region (district) or in more closely related regions.
With this concept economic entities are rapidly developing, applying contemporary methods of work and they draw the maximum from the market environment under modern management, and the economy of the region or district gains competitive advantages over others."(Horvat, 2012, p. 230)

1.1. The vision, mission and goals of the cluster

The essence of all clusters is to align business interests of the incorporated economic entities. The most common motives for merging in practice are:

- to achieve better price for your products,
- to lower production costs while achieving product quality,
- to increase production capacity,
- to expand technological production capacities,
- to achieve better procurement conditions with suppliers,
- to increase volume of sales of products/services,
- the access to new domestic and foreign markets.

The mission of a cluster is a strategic document that should take into account the general specificities of the region and the value of the population in which it operates.
The vision is usually shaped by the mission, while the goals of a cluster are so specific that they cannot be in conflict with the members of the cluster.

1.2. Characteristics of successful clusters

The key factors for the successful clusters are leadership (formal or informal) and the distinction between competitiveness and competition. Equally important is the strong networking of cluster entities and their quality communication.
Porter looks competitiveness and competition through: "Competitiveness is defined as productivity by which a state or enterprise uses its human resources, capital and natural resources.“ (Porter, 1998, p. 59)
Competition is a contest of manufacturers on the market.
Cluster members must see the advantages of developing competitiveness in regard to the disadvantages of merging with the competition.
The success of a cluster is reflected in synergic functioning that primarily comes from the private sector and connects academic community and state institutions. Therefore, we look at business cooperation as a link between members within clusters and clusters' relationship with external partners.
For successful relationship, it is essential to have multiple communication channels between cluster project participants.
Considering the competition between business clusters, equal relations within the cluster are important, in order for all participants to express their trust in the cluster.
The interests of each entity should be protected within the cluster, while sharing the common goal which they can present and represent publicly and inside the cluster.

2. Cluster position in Croatia

Today, Croatia recognizes the European Union's guidelines in encouraging clusters, i.e. in increasing participants' competitiveness on the market. Through the Agency for Investments and Competitiveness (AIC), Croatian clusters of competitiveness have been launched by economic branches. Considering the general purpose of clusters, they do not make desired alterations. They lack budget, they do not have enough staff, they mostly rely on the AIC's administrative support.
The results show that state institutions do not need to be cluster initiators. State institutions should educate businessmen to recognize the need for merging and to do so on their own initiative (with the participation of state institutions).
Clusters in Croatia must respond to the challenges of the new world economy, global market, globalization of information and knowledge, rapid development, commercialization of innovation. The region's specifics become a distinctive factor, crucial for the success of "general" innovation in the world of galloping development.

The quality and the mobility of the workforce,alongside a positive environment oriented to innovation and entrepreneurship, that is also well-networked, becomes inevitable for the competitiveness on the world market. Through clusters with strong private sector and state institutions' collaboration, focused on innovation that takes into account the specifics of the region, it is possible to raise competitiveness with sustainable growth.

Table 1 *Clusters in Croatia, SWOT analysis of clusters' environment*

STRENGTHS	WEAKNESSES
• An increasing number of companies in clusters • Increasing interest of the research and development sector for clustering • Large variety of cluster organizations and cluster models • Connection with EU clusters	• Insufficient number of globally active companies - internationalization of clusters • Low level of innovation in many clusters • A small scope and range of cooperation between members of the cluster • Low level of cooperation between clusters (regional, national, international) • Lack of financial resources for cluster activities • Lack of human potential for cluster activities • Lack of training for managers and cluster members
OPPORTUNITIES	THREATS
• Specialization of regions and development of regional clusters • Professionalization of existing cluster organizations • Merging existing cluster organizations • Establishing new cluster organizations • Strengthening cooperation between existing clusters • Strengthening cluster collaboration with research and development • Linking existing clusters to regional and European clusters • Establishing cluster education system	• Clusters remain small • Insufficient cooperation between Croatian clusters • Insufficient cluster collaboration with regional and local level (entrepreneurial zones, incubators, technology parks, regional development agencies) • Lack of national cluster education system • Low level of export activities of Croatian clusters

Source: (Ministry of the Economy, 2011, p. 10-11)

Looking at the Strategy of cluster development in the Republic of Croatia from2011 to 2020we notice, through SWOT analysis, that the desired growth has not been achieved, as the analysis is also appropriate for today's state without change.

Table 2 *Clusters in Croatia, SWOT analysis of business sectors*

STRENGTHS	WEAKNESSES
• Examples of entrepreneurial and cluster organizations • Openness to accepting new organizations and new business models • Flexibility • Qualified labor force in the traditional industrial sector • Constructed business infrastructure • A large number of business support institutions	• Absence of strong value chains • Low investment levels of small and medium-sized enterprises in technology and research and development, and consequent low productivity • Lack of cooperation and networking between business entities • Lack of cooperation and networking of public, private and scientific-research work • Lack of professional and highly educated workforce • Inefficiency of the labor market • Inadequate investment in training and

	improvement (lifelong education)
OPPORTUNITIES	THREATS
• The potential for further professionalization and specialization of enterprises • The potential for the development of new, internationally competitive companies • The potential for bigger adoption of innovations and new organizations • The potential for increasing cooperation between companies • Integration into the Single European Market • Networking of the public, private and scientific-research sector • Business infrastructure and supporting business institutions placed in the function of cluster development	• Other existing frailties of the business sector • Low level of internationalization • Lack of growth of highly educated forces • Firms do not use EU funds sufficiently

Source: (Ministry of the Economy, 2011, p. 10-11)

When we compare the 2011 business sectors'SWOT analysis with the current situation, the only difference is that we have reduced the risk of „companies that do not use EU funds". Today, there is also a shortage of professional staff due to the outflow of the skilled workforce abroad.

Table 3 *Clusters in Croatia, SWOT policy analysis and mediation services*

STRENGTHS	WEAKNESSES
• Active business climate promotion policy • Alignment of the national policy of small and medium-sized enterprises with good EU practice • The existence of various programs to support and promote clusters • The existence of support programs for the business sector	• The lack of coordination and coherence between the various related policies and stakeholders • The lack of financial and human resources • Inadequate variety of support measures and instruments • Lack of control and policy evaluation
OPPORTUNITIES	THREATS
• Coordinated cluster policy and implementation through intermediary services • Efficient financing of cluster policy through EU funds • Further affiliation of Croatian cluster policy with EU policies • Development of coherent and coordinated national cluster methodology • Strengthening of cooperation between existing clusters' support institutions • Strengthening the regional level in supporting and developing clusters • Access to European aids for business sector	• Lack of coherent cluster approaches at national and regional level • Insufficient number and coordination of clusters' support programs • Ineffective implementation of policy and intermediary services • Insufficient use of EU funds • Disconnection of business support sector with research and development • Disconnection of business support sector with EU partners

Source: (Ministry of the Economy, 2011, p. 10-11)

The cluster's insignificant influence on Croatia's competitiveness is simply demonstrated by the lack of SWOT analysis of policy and intermediary services, even seven years from setting up a national cluster development strategy. Croatia's economic scene needs to understand the need for clusters and begin to sustain lost competitiveness growth due to stagnation in the last period.

3. The perspective of health tourism in the world and in Croatia

The world's medical tourism market is growing at an annual rate of 15 - 20%, in 2011 it exceeded 120 billion dollars. Medical tourism was not affected by the negative trend of recession like the rest of the tourism industry.
Croatia now generates around 300 million euros in three segments:

- Medical tourism: 800 business entities, 5,500 employees, 210 million euros,
- health tourism: 18 entities, 3,400 employees, 60 million euros,
- wellness and medical wellness, 90 entities.

The president of the Community for Health Tourism at the Croatian Chamber of Economy Marcel Medak estimates the potential of health tourism to more than one billion euros. (Osijek031.com, 2018)
The region of Eastern Croatia has great natural and social wealth, which in today's world of globalization has enormous importance. From culture, cultural heritage, history, customs, through untouched nature, biological diversity to the one thing that particularly sets us apart - warm hospitality. The possibility of developing a tourist destination and all-year-round tourism that recognizes and nurtures an individual approach to the tourist and the patient.

4. Traffic connection between Osijek and Slavonia and Baranja

Eastern Croatia has good traffic connections: by road, rail, river and air. By completing the traffic route C5, it will be connected to a strong north-south road route that will bring new traffic. This will increase the number of transit tourists through Slavonia and Baranja, as well as the number of one-day tourists.
The specificity of the region in terms of traffic is the increasing traffic of river cruisers and bicycle tourism, that significantly grows with every summer, primarily in Baranja in cross-border traffic.

5. Cluster Pannonian Health- the first health tourism cluster in eastern Croatia

The Pannonian health tourism cluster consists of 12 members coming from the field of health and tourism services. They joined for the common goal of promoting the city of Osijek and Slavonia and Baranja as destinations of medical tourism. The cluster through the members offers a complete service from medical, dental, ophthalmological, surgical to medical transportation, rehabilitation in spa, and full offer of tourist services and events in the region. Cluster also offers accompanying tourist supply of other partners: accommodation capacity, enology winery offers etc.
By establishing a cluster in 2017, members define the goal of creating a competitive health-tourism product, convinced that Slavonia and Baranja, besides being a quality place for life, can be recognized as a health and tourist destination. They expect a result in improving health care and quality of life and improving the overall supply and service in tourism in the region, promoting traditional values and branding the region.
By members investing in marketing, the cluster will brand the city of Osijek and Slavonia and Baranja as a new 'destination of health' through a more favorable and quality medical service with the overall tourist offer of eastern Croatia. The cluster will further promote and exploit the potential of attractive attractions and destinations: the Drava River, the Sava and Danube River, Djakovo Lipizzaner stud farm, Vučedol, Osijek Fortress (Tvrđa), Kopački rit and „Papuk“ Nature Park, Bizovačke Spa, family and agricultural estates, a cycling trail through Baranja, Đakovo berths, Vinkovci Autumn Festival, Slama, Pannonian Challenge and others. The region's advantage is also a good traffic link by road, rail and air.

6. Conclusion

The cluster as the key accelerator of competitiveness development on the global market represents, from a theoretical and practical aspect, one of the global instruments of economic development in

Osijek and Slavonia and Baranja. Until today, the Croatian economy has not used the potentials provided by clusters, and the economy of Croatia, especially of the Eastern Croatia, places the economy in a worse position on the global market.
The medical cluster "Pannonian Health" is a positive example that shows the prospect of all businessmen's doing in order to increase competitiveness.
State institutions have set the legal framework for cluster action and set up a basic service for their support, but the fact is that the need for them is still not clear enough to the economy. Additional efforts are needed to enable the economy to accept clusters in their fullest sense.

REFERENCES

Banneworth, P., Charles D. (2001): ***Bridging Cluster Theory and Practice: Learning from the Cluster Policy Cycle***, OECD Publishing, Paris, pp. 389-403
Center for the development of competitive clusters (2008): ***The strategy of cluster development,*** Novi sad
Hadžiahmetović, Z, Softić S., Kulović Dž.(2008): ***Organization (theory, structures, behaviour),*** Faculty of Economics, Sarajevo
Horvat, Đ. (2012), ***Theme cluster in tourism***, in: 1. International scientific symposium of the economy of Eastern Croatia - yesterday, today, tomorrow, May 17-18, 2012, p.p. 230 - 239
Porter, M. E. (1990): ***The Competitive Advantage of Nations*,** Free Press,New York
Porter, M. E. (1998): ***On Competition*,**Harvard Business School Press, Boston
Clusters, http://clusters.com,(accessed 1 March 2018)
Ministry of Economy, Entrepreneurship and Crafts (2011): ***The strategy of cluster development in the Republic of Croatia 2011 - 2020,*** https://www.mingo.hr/public/Poduzetnistvo/Strategija_razvoja_klastera_RH12117.pdf, (accessed 1 March 2018)
Osijek031.com (2018): ***Official presentation of Cluster of Health Tourism "Pannonian Health"***, http://www.osijek031.com/osijek.php?topic_id=71446, (accessed 1 March 2018)
Pannonian Health Osijek, https://www.pannonian-health.eu, (accessed 1 March 2018)
Rangaa, M., Etzkowitz, H. (2002): ***Triple Helix Systems: An Analytical Framework for Innovation***,http://triplehelix.stanford.edu/images/Triple_Helix_Systems.pdf, (accessed 1 March 2018)
Carayannis, E.G., Barth, T.D., Campbell, D.F.J. (2012): ***The Quintuple Helix innovation model: global warming as a challenge and driver for innovation***, https://innovation-entrepreneurship.springeropen.com/articles/10.1186/2192-5372-1-2, (accessed 1 March 2018)

Ksenija Tokić, PhD
Institute for Tourism
Vrhovec 5, 10000 Zagreb, Croatia
Phone: ++385 1 3909 666
E-mail address: ksenija.tokic@iztzg.hr

Jasenka Kranjčević, PhD
Institute for Tourism
Vrhovec 5, 10000 Zagreb, Croatia
Phone: ++385 1 3909 666
E-mail address: jasenka.kranjcevic@iztzg.hr

POTENTIAL OF LIBRARIES AS TOURIST ATTRACTIONS: CASE STUDY OF CROATIA

POTENCIJAL KNJIŽNICA KAO TURISTIČKIH ATRAKCIJA: STUDIJA SLUČAJA HRVATSKE

ABSTRACT

The purpose of this paper is to explore the potentials of libraries as tourist attractions from the aspect of attractiveness of the buildings and from the aspect of the attractiveness of library collections. With this purpose the aim of the paper is to determine attitudes of libraries and tourist boards about the potential of library buildings and collections as tourist attractions. This work is based on the primary research of libraries and tourist boards in the county centres of the Republic of Croatia. Data collection was conducted using the non-representative convenience sampling method. The research instrument was a questionnaire with twelve close ended questions based on Likert five-point rating scale. The questionnaire was sent to 27 libraries and to 12 offices of tourist boards in Croatia. The questionnaire was answered by 19 libraries and 12 tourist boards, representing two types of samples – one made up of libraries, and the other of tourist boards.The results showed that libraries and tourist boards consider library buildings and collections as resources with great potential as tourist attractions and that they should be included in tourist offer.The findings of this paper provide a better understanding of the role of libraries with all their potentials (buildings and collections) as tourist attractions.

Key words: *Library in tourism, Library building, Library collection, Library as tourist attraction, Croatia.*

SAŽETAK

Svrha rada bila je istražiti potencijale knjižnica kao turističkih atrakcija sa stajališta atraktivnosti građevina u kojima su smještene i atraktivnosti knjižničnih zbirki. U tu svrhu cilj rada je definirati stavove knjižnica i turističkih zajednica o potencijalima knjižničnih zgrada i zbirki kao turističkih atrakcija. Rad se temelji na primarnom istraživanju knjižnica i turističkih zajednica u glavnim županijskim centrima Republike Hrvatske. Za prikupljanje podataka korištena je nereprezentativna prigodna metoda uzorkovanja. Instrument istraživanja bio je upitnik s dvanaest zatvorenih pitanja na temelju Likertove skale od pet točaka. Upitnik je poslan na 27 knjižnica i 12 ureda turističkih zajednica u Hrvatskoj. Na upitnik je odgovorilo 19 knjižnica i 12 turističkih zajednica, te kako su svi dobiveni odgovori bili valjani, te knjižnice i turističke zajednice predstavljaju dvije vrste uzorka.

Rezultati su pokazali da knjižnice i turističke zajednice smatraju da knjižnične zgrade i zbirke imaju potencijalau smislu turističkih atrakcija te da bi ih trebalo uključiti u turističku ponudu. Nalazi ovoga rada omogućavaju bolje razumijevanje o ulozi knjižnica sa svim njihovim potencijalima (građevine i zbirke) kao turističkih atrakcija.

Ključne riječi: *Knjižnice u turizmu, Knjižnične zgrade, Knjižnične zbirke, Knjižnica kao turistička atrakcija, Hrvatska.*

1. Introduction

Libraries are among the oldest cultural institutions that still play an important role in the public sociallife. At a time when there was no television, internet and other forms of communication, libraries and reading rooms were the place of information sharing, gathering and socializing. Small libraries and reading rooms were also one of the hotel's facilities as venues where guests could spend their leisure time or do some social activities. This function of libraries can be seen in the example of some hotels (Kranjčević, 2013, 2014). At the very beginnings of tourism in the Croatian Adriatic, libraries have begun to overlook their original frameworks becoming increasingly involved in tourism. Since hotels have been mostly built outside of large cities and that tourists had the habit and the need to read and / or inform at their hotels, there were arranged reading areas (reading rooms) with anoffer of a number of books. Nowadays, these hotel rooms have been transformed into other functions, but at the time the hotels were built, they played an important role in the hotel offer.

Libraries play an important role in the contemporary life of their communities regarding the education of young people and the elderly in democracy, in the promotion of reading, promotion of literacy and information literacy (Koontz and Gubbin, 2011), as cultural centres, and as theoretical support to scientific research and an array of other functions. Almost invisibly, by performing their tasks and functions, their activities are spreading out of the strict framework of their profession becoming support without which it would be impossible to move forward. Asnon-profit institutions, they serve the realizationof public interest, but the purpose of their existence is not to make a profit (Pavičić, 2003).They carry out in tangible value for the society which is almost impossible to express by figures or economic indicators.

Although library activitiesmeet the needs of their users, the wider public and society segments do not sufficiently perceive their role and value for society, and neither does the tourism segment. The example of Croatia showed that the role of libraries in tourism was not recognized or valorized to an adequate extent. Most of strategic and planning documents (Tourism master plan of Croatia, 1992; Glavni plan i strategija razvoja turizma Republike Hrvatske, 2012; Strategija razvoja kulturnog turizma "Od turizma i kulture do kulturnog turizma", 2003; Akcijski plan razvoja kulturnog turizma, 2015; Turistički master plan Bjelovarsko-bilogorske županije, 2009; Plan razvoja kulturnog turizma Splitsko-dalmatinske županije, 2009; Tomas kulturni turizam 2008, etc.) dealing with the development of tourism or cultural tourism at the national or regional level do not include libraries as possible stakeholders in the tourist offer. Existing strategic and development plans of tourism are mostly oriented to economic indicators of demand and consumption, socio-demographic indicators of tourists, various aspects of travel characteristics, length of stay, etc. Libraries are mentioned sporadically, only in relation to demographic data, e. g. number of employees in culture that is "less important for the creation of a tourism product" (Institute for Tourism, 2014), in relation to activities that have some similarity with libraries, such as "reading books" in terms of activities on vacation (Horwath Consulting, 1993). Therefore, this paper aims to explore the tourism potential of libraries from the aspect of architecture and library collections. This would enable the recognition and evaluation of their potential as a tourist attractions.

2. Theoretical Framework

Travel and tourism sector in general expresses the characteristics of internationalization (Govers and Go, 2004), and, as a response to it, tourism needs local culture, or at least the image of it (Reiser, 2003). Cultural identity of a place represents the attractiveness of the tourism product, adding to the tourist's unique experience of a particular destination (Govers and Go, 2004). Thus, cultural identity of tourism destinations acts in terms of tourist attractiveness. As an essential component of cultural identity, cultural heritage is determined not only by monuments and localities,instead it is a wider concept because it includes the cultural tradition of a particular nation, their customs, food, clothing, poems, dances, oral and written heritage, literary works, etc. Thus, the heritage includes the material and spiritual culture of the people (Jelinčić, 2000).Under the influence of modernization processes throughout the world, devastation and decay of cultural heritage have been observed. That is why cultural heritage is a subject of an increasing number of official documents, especially at the European level. These documents encourage the recognition and activation of cultural heritage as a strategic resource for directing sustainable development and adapting it to modern lifestyles as well as activating all stakeholders for the purpose of recognizing, recording and preserving it (Council of the European Union, 2014; European Parliament, 2015.).

2.1. Library Architecture and Collections

Libraries with their collections and activities appear as carriers of literary heritage, hence also as bearers of cultural identity, and at the same time as the places of its preservation. They are the cultural, educational and information centres of the communities in which they operate, enabling access to all types of knowledge and information (UNESCO, 1994). In tourism, they participate with their three functions (informative, educational and cultural) and may also be tourist attractions (Tokić, 2011, 2014). Many libraries have a tradition of collecting and preserving local collections and thus shape the cultural identity of a particular region, representing its culture in the deepest and widest sense (Tošić-Grlač, 2009). We can agree with the former director of National and University Library of Croatia (Croat. Nacionalna i sveučilišna knjižnica –NSK), according to whom "the National and University Library is a temple and the treasury of Croatian literary heritage, which best expresses and affirms the Croatian national identity and acknowledges its continuity"(Stipanov, 2007).The role of libraries in tourism is significant for many reasons, among others,because they appear as a place of intercultural interaction between tourists and hosts in which they act as bearers and carers of cultural identity (Tokić, 2010).

From the point of view of culture and architecture, libraries are often placed in buildings of historical, cultural and architectural significance. These facilities can represent historical and cultural sightseeing attractions and as such be a part of the cultural heritage of a particular community. Also, due to their exceptional architectural features, modern library buildings are becoming a part of cultural heritage. CNN (2013) for example, highlights 7 of the world's most beautiful libraries as architectural attractions: Central Library in Seattle, Washington, USA founded in 2004, The Trinity College Library in Dublin, founded in 1592 by Queen Elizabeth I.,Geisel Library, University of California: San Diego, USA, founded in 1970, TU Delft Library, Delft,The Netherlands, founded in1997,TheBibliotheca Alexandrina, built by Alexander the Great some 2,300 years ago, The Stuttgart City Library, Stuttgart, Germany, founded in2011, and Bishan Public Library, Singapore, founded in 2006. In addition to the aforementioned, many other libraries can be added, such as the Royal Library of Copenhagen (architects Schmidt, Hammer and Lassen), also known as the Black Diamond, the University Library in Aberdeen, Scotland (same architects), as well as the library of the Japanese architect Toyo Ita, recent winner of the Pritzker Award for Art University of Tama City or Musashino Art University Library SouFujimota (DruštvoarhitekataZagreba – DAZ, 2013). There is also an example of the conversion of the Austrian Admont Abbey into a library, which thus became one of the most beautiful libraries in the world. Similar examples of converting spacesintolibrariesalso exist in Croatia. For example, an industrial complex in Labin, which islisted in the Register of Cultural Goods of the Republic of Croatia from 2006, within which the administrative building was transformed into a new public library.The authors of this article noted that although the legal regulations (Official Gazette, 2007) allow libraries to be included in the tourist offer, strategic and development plans of tourism in the Republic of Croatia do not include libraries in their research. On the contrary, some of them point out that libraries and archives are not a priority cultural resource in attracting the international tourism market because they are mainly focused on the national heritage that is presented in the national language (Institute for Tourism, 2003).

2.2. Reasons toVisita Library

Libraries can be attractive to visitors and encourage them to visit for many reasons. Tourists are looking for specific attractions, cultural and historical heritage, and libraries and books can certainly be perceivedas such attractions. This is confirmed by examples of world-renowned libraries, such as the Library of Alexandria in Egypt, which has a significant function in the development of cultural tourism in Egypt. The library is attractive from a variety of aspects, from architecture, special library collectionsand theimportance for the development of culture to a wealth of other contents accessible to the visitor. In the annual reports of the Library of Alexandria, a number of activities are listed, among whicha possibility of tourist sightseeing.The Library organizes educational events, art exhibitions and concerts, and also includes several museums. Permanent activities include guided tours of the Library. Alexandria Library also has a well-organized web site, which is visited by a large number of users. According to the Annual Report for 2012, the Library's web site has more than 650 million visits annually and more than 1.8 million a day. Its great significance for the community is indicated by the fact that the library in Alexandria represents a tourist symbol of Egypt and it is in the true sense of the word a cultural and tourist attraction with ticket revenue of about 1.4 million euros per year, of which 40-60 % comes from foreign tourist. Its impact is also reflected in the total tourism business of the city, e.g. in 2000 the occupancy of tourist capacities was 64%, while three years after the opening of the Library there was an increase of tourist capacity for 30% (Jelinčić and Zović, 2012, p. 38). The British Library, the Congress Library, the National Library of France, the National and University Library in Zagreb and many others are also witnesses the contribution of libraries in tourism.

On the example of these libraries the following reasons for visiting libraries as followscould be identified: i) Architecture: exteriors and interiors with their cultural and monumental values, historical value and architectural value of the building; ii) Library collections, such as local collections, incunabula, manuscripts, old and rare books, scientific and professional collections, digitized collections and others; iii) Library events such as educational events, workshops, concerts, artistic exhibitions, literary evenings, guided sightseeing, etc.; and iv) Significant and famous persons, with the important dates of their lives etc.

2.3. Libraries as Registered Cultural Goodsof the Republic of Croatia

The Law on the Protection and Conservation of Cultural Goods as an institution for the protection and preservation of cultural goods includes "restoration institutes or other restoration institutions and museums, galleries, archives, libraries and other public cultural institutions carrying out conservation and protection of cultural goods” (Official Gazette,No. 69/1999, Article 94). The Ordinance establishing cultural objects considered as national treasures of the member states of the European Union (Official Gazette, 2004) prescribes that this category includes among others "incunabula, manuscripts, including maps and music scores, individually or in collections, and books more than 100 years old, individuallyor in collections" (Article 2). This is probably the reason that out of 19 local collections among the libraries to which a questionnaire was sent, none have been recorded in the Register of Cultural Goods of the Republic of Croatia. The authors also investigated whether the buildings or collections of the libraries were included in the Register of Cultural Goods of the Republic of Croatia. In the Statistical Yearbook of the Republic of Croatia 1781 libraries were recorded (CBS, 2015). In the Register (Ministry of Culture, 2016), 89 libraries were listed in 42 cities. Out of that number, 21 collections (23.60%) were registered as preventively protected cultural property, and 68 collections (76.40%) as protected cultural heritage. Most of the registered collections (55 of them, or 61.80%) belong to some of religious institutions (monasteries, dioceses, Jewish communes, parish offices and similar).

3. Methodological Framework

This paper is based on the primary research of libraries and tourist boards in the main county centres of the Republic of Croatia. Several scientific methods have been used. The methodology of non-representative purposive and convenience sampling was used for the selection of libraries to be included in the research. A qualitative approach was applied for interpretation of the obtained results.

3.1. Sample and Research Instrument

For this research it was decided to determine two purposive samples for the study, in order to compare the obtained data:a) purposive sample of libraries in the major county centres in the Republic of Croatia;b)purposive sample of tourist boards of these cities.The following criteria were defined for purposive sampling:

a) Sample of libraries
   i) Geographic coverage of the whole of Croatia - due to the uneven development of the country with 95% of tourist traffic on the coast and 5% on the continent (CBS, 2014), it is important to explore tourism potential of libraries both in the developed area and their possible role in to the development of tourism in the poorly developed Croatian territory;
   ii) Public libraries of county centres - due to their central role in collecting and protecting local collections, and their importance in preserving the cultural identity of local communities;
   iii) National library – because of its importance in collecting and preserving national collections, which is crucial to the cultural identity of the wider community;
   iv) university libraries - because of their key role as a central library in the higher education process;
b) Sample of tourist boards
   v) Tourist boards of the major county centres in the Republic of Croatia.

The research instrument was a questionnaire on opinionsof the respondents, andcontained twelve close ended questions based on Likert five-point rating scale, from 1 (disagree) to 5 (absolutely agree). The questions wererelated to the opinion of the respondents about the attractiveness of libraries (buildings and collections) in Croatia and their representation in the development of tourism; the opinion of the respondents on the need for inclusion in tourism; and the need for cooperation between the Ministry of Tourism, Ministry of Culture, and tourist boards.The questionnaire was sent to 27 libraries (41 buildings) in 20 cities. The questionnaire was answered by 19 libraries from 16 cities. Of these, 12 libraries are registered as protected cultural goods, while 7 are not. Respondents were directors or employees of the surveyed libraries. The sample of tourist boards consisted of 12 tourist boards. In 7 cities, the library was registered as a protected cultural good, while in 5 it was not. Respondents were employees of tourist boards from the cities where the surveyed libraries operate. Regarding the surveyed libraries, it was found that 14 (66.67%) of 21 library buildings are registered as cultural good of the Republic of Croatia. Two of them (14.29%) as preventively protected cultural goods, and 12 (85.71%) as protected cultural goods. Observed libraries contain 35 collections of which 9 (25.71%) are registered as protected cultural goods.

3.2.ResearchPurpose, Objective and Research Question

Since libraries are not involved in tourism as much as they should be, especially in Croatia, authors argue that the potential of libraries as tourist attractions is not sufficiently recognized by the tourism sector. The purpose of this paper is to explore the potential of libraries as tourist attractions from the point of view of the attractiveness of both their buildings and their library collections. With this purpose the aim of the paper is to determine attitudes of libraries and tourist boards about the potential of library buildings and collections as tourist attractions.

Some libraries in Zagreb are recognized as attractions (Laslo, 2011; Karač and Žunić, 2012),e.g. the old NSK building, today the Croatian State Archive, the new building of NSK, the City Library, the Library of the Croatian Academy of the Science and Arts (Croat.Hrvatskaakademijaznanosti i umjetnosti -HAZU) and the Library of the Faculty of Philosophy, University of Zagreb. However, these libraries are not recognized as tourist attractions, and they do not participate in tourism offer.

The research is based on the standpoint that library buildings and their collections have the potential to be attractive to tourists, but it is neither recognized nor evaluated because of the lack of a systematic link between the appropriate structures. Therefore, based on the objective, research was carried out in Croatia to taste the following: i)Whether library buildings and collectionsin the county centres have potential as a tourist attractions and whether they are recognized as such; ii)Whether library resources (buildings and collections) are included in the development of tourism; and iii)Whether tourist boards have recognized the potential of libraries in tourism.The research question was whether the status of the library as a registered cultural good influences the attitude of libraries and tourist boards about the attractiveness and activation of libraries as cultural attractions.

4. Results

Table 1 shows the average ratings of libraries' and tourist boards' views on library potential as tourist attractions. Responses from both samples confirmed that libraries and tourist boards consider library buildings in county centers to have potential as tourist attractions (average rating of TBs = 3.92; Libraries = 3.84) and that they are recognized as such (TBs = 2.25; Libraries = 2.36).Regarding library collections both library and tourist boards respondents considered library collections to have potential as a tourist attraction(TBs = 3.83; Libraries = 3.47), however, both of them believe that library collections are not recognized as tourist attractions (TBs = 1.11; Libraries = 1.84).

Tourist boards consider that library potentials (buildings and collections) are included in tourist offer as attractions,but this involvement is inadequately carried out (TBs: buildings = 2.33; collections = 2.33).Libraries find that libraries are completely inadequately included in tourist offer (Libraries:buildings = 1.73; collections = 1.52). Also,tourist boardsconsider that library buildings and collections have potential as tourist attractions (buildings = 3.92; collections = 3.83) and that they should be included in tourism planning (4.33).

The answer to the research question whether the status of the library as a registered cultural good affected the attitude of libraries and tourist boards about the role of libraries in tourism, was unexpected. That is, Table 1 shows that the status of the library as a cultural good influenced the attitudes of libraries, and the libraries have better rated those libraries that are registered as cultural good.However, the status of the library as a cultural goods did not impact the tourist board attitudes, since they better rated those libraries which are not registered as cultural good (Table 1).

Table 1 *Average Ratings for the Potentials of Libraries in Tourism*

	Total		Libraries - Cultural Good		Libraries – not Cultural Good	
Libraries and tourism	**TBs**	**Libr.**	**TBs**	**Libr.**	**TBs**	**Libr.**
Building potentialas TA	3.92	3.84	3.57	4.33	4.40	3.00
Building recognized as TA	2.25	2.36	1.57	2.66	3.20	1.85
Building included in tourism offer	2.33	1.73	1.71	2.00	3.20	1.28
Collection potential as TA	3.83	3.47	3.71	3.58	4.00	3.28
Collection recognized as TA	1.11	1.84	1.57	2.00	2.00	1.57
Collection involved in tourism offer	2.33	1.52	2.14	1.75	2.60	1.14
Library buildings and collections in tourism planning	4.33	4.00	4.29	4.16	4.40	3.71
Collaboration between libraries and Ministry of Tourism	4.00	4.00	4.00	4.00	4.00	4.00
Collaboration between libraries and Ministry of Culture	4.25	4.10	4.29	4.25	4.20	3.85
Collaboration between libraries and TBs	4.75	4.42	4.57	4.25	5.00	4.71
Collaboration between libraries and all three sectors	4.25	4.15	4.29	4.00	4.20	4.42

Source: Authors' research

5. Conclusion

This research has shown that libraries have the potential to become tourist attractions, especially library buildings and collections that arerecorded in the Register of Cultural Goods of the Republic of Croatia.9 collections of surveyed libraries are registered as cultural good. Library buildings and collections have historical and cultural value for the city or place they are in, which applies to libraries not recorded as protected cultural heritage as well, such as the new NSK building, or a new, modern building of the University Library of Split.None of them have been registered as a cultural goods, but they are a valuable example of contemporary architecture.Many of libraries that are not recorded as cultural goods collect local collections that are extremely important as national heritage and nurture and reflect the national cultural identity.The book collections as a potential attractions are not located only in attractive library buildings but can also be a part of sacral collections, private collections or collections of the local community.

REFERENCES

BOOKS:

Akcijski plan razvoja kulturnog turizma (2015), Institute for Tourism, Zagreb.

Croatian Bureau of Statistics [CBS]. (2014): ***Statistical Yearbook 2013***, CBS, Zagreb.

Croatian Bureau of Statistics [CBS]. (2015): ***Statistical Yearbook 2015***, CBS, Zagreb.

Glavni plan i strategija razvoja turizma Republike Hrvatske (2012), Institute for Tourism, Zagreb.

Horwath Consulting. (1993): ***Glavni turistički plan Hrvatske***,Horwath Consulting, Wien.

Jafari, J. (Ed.) (2000): ***Encyclopedia of tourism***, Routledge, London, New York.

Karač, Z. and Žunić, A. (2012): ***Antologijski arhitektonski vodič Zagreba***, UPI-2M PLUS,Arhitektonski fakultet,Zagreb.

Koontz, C. andGubbin, B. (Eds.) (2011): ***IFLA-ine smjernice za narodne knjižnice*** (2nd Croatian ed.),Hrvatsko knjižnično društvo,Zagreb.

Kranjčević, J. (2013): ***Alfred Keller (1875-1945) - architectural projects on island of Lošinj and in the territory of Croatia*,**Lošinjski muzej, Mali Lošinj; Institute for Tourism,Zagreb.

Kranjčević, J. and Kos, M. (2014): ***Češki arhitekti i početci turizma na hrvatskom Jadranu***, Institut za turizam, Zagreb; DAR, Rijeka;Veleposlanstvo Republike Češke, Zagreb.

Laslo, A. (2011): ***Arhitektonski vodič Zagreb 1898-2010***,Arhitekst, Društvo arhitekata Zagreba.

Pavičić, J. (2003): ***Strategija marketinga neprofitnih organizacija***, Masmedia, Zagreb.

Plan razvoja kulturnog turizma Splitsko-dalmatinske županije (2009), Institute for Tourism, Zagreb.

Stavovi i potrošnja posjetitelja kulturnih atrakcija i događanja u Hrvatskoj: TOMAS kulturni turizam 2008 (2009), Institute for Tourism, Zagreb.

Strategija razvoja kulturnog turizma "Od turizma i kulture do kulturnog turizma" (2003), Institute for Tourism, Zagreb.

Tokić, K. (2015): ***Uloga knjižnica u hrvatskom turizmu*** [The role of libraries in Croatian tourism], PhD dissertation, Filozofski fakultet, Zagreb.

Tourism master plan for Croatia (1992), Institute for Tourism, Zagreb.

Turistički master plan Bjelovarsko-bilogorske županije (2009),Institute for Tourism, Zagreb.

Zdunić, D. (Ed.) (1985): ***Zagreb***, Spektar, Zagreb.

ARTICLES IN BOOKS OF PROCEEDINGS

Čučić, V. (2007): ***Dubrovačke knjižnice u turističkoj ponudi grada***, in: N. Eleta, ed., Knjižnice u turističkoj ponudi. 2. međunarodni skup Knjižnica središte znanja i zabave : zbornik radova, Gradska knjižnica Ivan Goran Kovačić, Karlovac, 14.09.2006.

Spentza, E.and Kyriakaki, A.(2013):***The role of libraries in the tourism development: the case of Koraes Library on Chios Island, Greece***, in:Tourism trends and advances in the 21st century: conference proceedings,University of the Aegean, Rhodes, Greece, May 30 to June 2, 2013.

Tokić, K. (2011):***Uloga knjižnica kao nositelja kulturnog identiteta u hrvatskom turizmu***, in: F. Bišćan (Eds.), 6. međunarodni skup Knjižnica – središteznanja i zabave : Knjižnice nositelji kulturnog identiteta : zbornik radova, Gradska knjižnica Ivan Goran Kovačić, Karlovac, 16.09.2010 - 17.09.2010, pp. 13-20.

Tokić, K. (2014):***Turizam i kulturni identitet: što mogu knjižnice?*** in: K. Krolo Žužul, M. Nardelli, I. Salvador and I S. Buczkowska (Eds.),Interdisciplinarni skup Očuvanje identiteta malih naroda u Europskoj uniji – pozicija i uloga knjižnica: zbornik radova, Gradska knjižnica Marko Marulić, Split**,** 15. prosinca 2014,pp. 80-91.

JOURNAL ARTICLES

Cunliffe, S. K. (2004): ***Tourism and culture at risk***, Tourism, Vol. 52, No. 3, pp. 285-291.

Govers, R. and Go, F. M. (2004):***Cultural identities constructed, imagined and experienced: a 3-gap tourism destination image model***, Tourism, Vol. 52, No. 2, pp.165-182.

Jelinčić, D. (2000):***Izantropološke perspektive: turizam i kultura*** [From the anthropological perspective: tourism and culture], Turizam, Vol. 48, No. 1, pp. 59-62.

Jelinčić, D. A. and Zović, I. (2012):Knjižnice u turizmu: Shhhh, Quiet please! Nein, herzlichwillkommen! Si accomodi! Liburna, Vol. 1, No. 1.

Official Gazette. (1999):***Zakon o zaštiti i očuvanju kulturnih dobara*** (OG 69/99), Zagreb.

Official Gazette. (2004):***Ordinance establishing cultural objects considered as national treasures of the member states of the European Union*** (OG 38/04), Zagreb.

Official Gazette. (2007):***Zakon o pružanju usluga u turizmu***, Zagreb.

Reiser, D. (2003):***Globalisation: an old phenomenon that needs to be rediscovered for tourism***, Tourism and hospitality research, Vol. 4, No. 4, pp. 306-320.

Tosic, V. and Lazarevic, S. (2010):***The role of libraries in the development of cultural tourism with special emphasis to the Bibliotheca Alexandrina in Egypt***. UTMS Journal of Economics, Vol. 1, No. 2, pp. 107-114.

INTERNET RESOURCES

CNN. (2013): ***7 of the world's most beautiful libraries. Sometimes, the packaging is just as good as what's inside***,http://travel.cnn.com/explorations/escape/7-coolest-libraries-world-934450/ (Accessed October 5, 2016).

Council of the European Union. (2014): ***Conclusion on cultural heritage as a strategic resource for a sustainable Europe***, 20. May 2014, No. 216/2013, http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:52014XG1223(01)&from=EN (Accessed October 5, 2016).

Društvo arhitekata Zagreba. [DAZ] (2013): ***Najbolje knjižnice svijeta*** [The best libraries of the world],http://www.d-a-z.hr/hr/vijesti/najbolje-knjiznice-svijeta,1889.html (Accessed October 5, 2016).

European Parliament. (2015): ***Towards an integrated approach to cultural heritage for Europe***, P8_TA (2015) 0293,http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2015 -0293+0+DOC+XML+V0//HR (Accessed October 5, 2016).

Lavender, G. (2010): ***Library Tourism***, http://grahamlavender.com/2010/08/12/library-tourism/(Accessed October 5, 2016).

Library Tourism & Hospitality: The Business of Endearing Philippine Libraries and Information Services to Publics. (2011): National Summer Conference on the theme: "Library Tourism & Hospitality: The Business of Endearing Philippine Libraries and Information Services to Publics". Filipini.http://paarl.wikispaces.com/file/view/Library_Tourism_and_Hospitality.pdf. (Accessed October 5, 2016).

Ministry of Culture (2016): ***Register of Cultural Property,*** http://www.min-kulture.hr/default.aspx?id=6212 (Accessed October 5, 2016).

Portal narodnih knjižnica, Accessed from http://www.knjiznica.hr/home.php

Stipanov, J. (2007): ***Blago NSK*** [National and University Library Treasure]UvodnitekstizložbeBlago NSK,Accessedfrom http: //www.nsk.hr/izlozba.aspx?id=1.

Tošić-Grlač, S. (2009):***Uvodno predavanje na skupu*** [Introductory lecture at the conference] 7. savjetovanje za narodne knjižnice pod nazivom Zavičajne zbirke u narodnim knjižnicama, Šibenik 16-19 September 2009,Accessedfrom http://www.nsk.hr/savjetovanje/dokumenti/programska_knjizica.pdf

UNESCO. (1994): ***UNESCO Public Library Manifesto***, http://www.unesco.org/webworld/libraries/manifestos/libraman.html (Accessed October 5, 2016).

University Library of Juraj Dobrila University of Pula. (2016): ***Noć muzeja u Sveučilišnoj knjižnici*** [Long Night of Museums in The University Library of Pula], Posted 2016/01/26,http://skpu.unipu.hr/novosti/detaljno/no-muzeja-u-sveuchilishnoj-knjizhnici#.V_3sCsn55qo (Accessed October 10, 2016).

9

Financijske institucije

Financial institutions

Prof. Anto Bajo, PhD
Faculty of Economics and Business Zagreb/Institute of Public financeZagreb
E-mail address: bajo@ijf.hr, abajo@efzg.hr

Doc. Marko Primorac, PhD
Faculty of Economics and Business Zagreb/CESifo Research Network
E-mail address: mprimorac@efzg.hr

Miheal Blažeković, student
Faculty of Economics and Business Zagreb
E-mail address: mblaekovi@gmail.com

FINANCIAL PERFORMANCE OF TOURIST BOARDS IN THE REPUBLIC OF CROATIA

FINANCIJSKO POSLOVANJE TURISTIČKIH ZAJEDNICA U REPUBLICI HRVATSKOJ

ABSTRACT

There are 326 tourist board offices in Croatia, of which 297 are active and 29 are inactive. There are tourist boards of cities, municipalities, counties, areas, towns and islands. The umbrella institution is the Croatian National Tourist Board (central office). In 2015, tourist boards had 862 employees and the total revenues of all tourist boards amounted to 110 million euros, with the total assets exceeding 37 million euros (mainly deposits). This represents a significant financial potential for the development of tourism, a potential which is not an integral part of the state and local government budgets. In Croatia, there is an uneven distribution of revenue, in particular as regards the revenue deriving from the tourist tax. As much as 95% of the tourist tax revenue is generated by the tourist boards of the Adriatic counties. Although tourist tax is charged per night, this is extremely unfair to continental tourist boards as, due to the low number of overnight stays, these tourist offices generate less revenue and thus have fewer opportunities to promote and improve tourism. The main objective of tourist boards should be the development of tourism in the whole of Croatia. Therefore, in order to promote tourism in areas with weak tourism performance,a different distribution of tourist tax revenue should be considered. The main purpose of this paper is to analyse the financial position of such areas and the possibility of redistributing revenues intended for the promotion of tourism among individual regions of the Republic of Croatia, based on the analysis of financial reports for 297 active tourist board offices.

***Key words**: tourist board, business, tourist tax, financial position, indicator.*

SAŽETAK

U Hrvatskoj postoji 326 turističkih zajednica od kojih je 297 aktivno, a 29 neaktivno. Postoje turističke zajednice gradova, općina, županija, područja, mjesta i otoka. Krovna je institucija Hrvatska turistička zajednica (središnji ured). U turističkim zajednicama je u 2015. bilo zaposleno 862 djelatnika, ukupni prihodi svih turističkih zajednica su 110 mil. eura, a ukupna imovina je viša od 37 mil. eura (uglavnom depoziti). To je značajan financijski potencijal za razvoj turizma, a nije *sastavni dio proračuna države i lokalnih jedinica. U Hrvatskoj postoji neravnomjerna distribucija prihoda posebice prihoda od boravišne pristojbe. Čak 95% prihoda od boravišne pristojbe prihod je turističkih zajednica jadranskih županija. Iako se boravišna pristojba naplaćuje po noćenju, ona je izrazito nepravedna prema kontinentalnim turističkim zajednicama jer zbog malog broja noćenja te TZ ostvaruju manje prihode, a time manje mogućnosti za promicanje i unapređenje turizma. Glavni cilj TZ trebao bi biti razvoj turizma na području cijele Hrvatske. Stoga bi trebala razmotriti drugačiju raspodjelu prihoda od boravišne pristojbe s ciljem promicanja turizma u onim područjima koja ostvaruju slabije rezultate. Glavni je cilj rada temeljem analize financijskih izvještaja za 297 aktivnih turističkih zajednica utvrditi njihov financijski položaj i mogućnost redistribucije prihoda namijenjenih promociju turizma između pojedinih područja Republike Hrvatske.*

Ključne riječi: *turistička zajednica, poslovanje, boravišna pristojba, financijski položaj, financijski pokazatelji.*

1. Institutional framework for tourist boards operations

A tourist board (TB) is a non-profit organization established for the purpose of promoting and improving tourism and economic interests of legal and natural persons providing catering and other tourist services or performing other tourism-related activities (Official Gazette, 152/08). In simple terms, tourist boards should be a meeting point for public and private interests in tourism, a place where common interests of a geographical area that these were established in are negotiated, cooperated on and achieved (Čavlek, Kesar, Prebežac & Bartoluci, 2011). The main features of tourist boards are the overall utility and the non-profit character of their business operations. Even though tourist boards are non-profit organizations, they are permitted by law to sell souvenirs, maps, organize events and similar activities etc. The Act on Tourist Boards and the Promotion of Croatian Tourism provides for mandatory and non-mandatory forms of tourist boards. Mandatory tourist boards are organized for cities, municipalities, counties and the state, and non-mandatory tourist boards include tourist offices for specific areas, towns and islands. Tourist boards are required to keep accounts in line with the non-profit accounting standards and submit their annual financial statements (in form of balance sheets and statements of financial income and expense) to the Ministry of Finance.

Croatian National Tourist Board (CNTB) is the national tourism organization established for the purpose of creating and promoting the identity and reputation of Croatian tourism, planning and implementing a common strategy and the concept of its promotion. The CNTB operates based on the Annual Action Programme and the Financial Plan adopted by the Parliament and generates its core earnings from the so-called *sojourn tax*, membership fees, transfers from the state budget and other sources.

County tourist boards participate in the promotion of tourist destinations in their area, manage public tourism infrastructure, participate in defining goals and policies of tourism development, promote tourist offers of the county both within the country and abroad (in cooperation with the CNTB), and create new products of a tourism region, especially in selective forms of tourism.*Municipality or city tourist boards* are established by their members, where the preparatory actions for their establishment and convention of the founding assembly are carried out by the municipal mayor or the mayor in cooperation with the county tourist board. Tourist boards cooperate closely with the administrative bodies of the municipalities and cities in the activities of joint utilisation of the sojourn tax funds allocated to a municipality or a city to improve the conditions for the stay of tourists, to agree on the preparation of tourism development plans in the municipality or city, to monitor the tourist traffic and the registration and deregistration of tourists and to cooperate when deciding on the working hours of catering establishments, and on other matters that are essential for the development of tourism.*Town tourist boards* are established upon the initiative of a local committee, municipal mayor or mayor or county prefect, and with the approval of the ministry.*Area tourist boards* are established for areas where no tourist boards of municipalities, cities or towns have been established. Preparatory actions for establishing an area tourist board and convening the founding assembly are carried out by the county tourist board. The initiative for the establishment of an area tourist board may be introduced by mayors or municipal mayors and local committees, already established tourist boards of municipalities, cities or towns and counties. *The tourist board of the City of Zagreb* was established for the purpose of realizing and promoting tourist attractions and its identity, raising the quality of tourism supply, promotions and promotional activities within the country and abroad that are of common interest for all the stakeholders involved in the tourism of the City.

Number of tourist boards and employees

According to the data of the Ministry of Tourism of 2017, there are 311 tourist boards in Croatia. The most common form are city and municipality tourist boards (262). There are 11 area tourist boards (located in 6 counties), 15 town tourist boards and one island tourist board (the Island of Krk). The City of Zagreb tourist board is singled out due to Zagreb's status of both a city and a county. All local tourist boards are located within 20 counties. The central tourist board is the CNTB, unifying the Croatian tourist offer.

Table 1 *Number of tourist boards in the Republic of Croatia*

Tourist boards of	CNTB (2017)	Register of Non-Profit Organizations (2015)		
		Active	Inactive	Total
counties	20	20	0	20
cities	117	117	5	122
municipalities	145	134	20	154
areas	11	9	4	13
towns	15	15	0	15
islands	1	1	0	1
City of Zagreb	1	1	0	1
CNTB - central office	1	1		1
Total	**311**	**297**	**29**	**326**

Source: Authors, based on the data from the Register of Tourist Boards at the Ministry of Tourism and Ministry of Finance

The list and the number of tourist boards from the Register of the Ministry of Tourism and the Register of Non-Profit Organizations (tourist boards) at the Ministry of Finance do not match. According to the data of the Ministry of Finance, 326 tourist boards (297 active and 29 inactive) are registered in the Register of Non-Profit Organizations, while 311 are registered in the Register of the Ministry of Tourism. It should be noted that 297 active tourist boards are operating regularly and submitting annual reports to the Ministry of Finance. The majority of TBs is located in the Split-Dalmatia County (43), Primorje-Gorski Kotar County (37) and Istria County (32). The County of Zadar, Istria and Zagreb recorded an increase in the number of TBs in their area while the County of Krapina-Zagorje and Osijek-Baranja reported a decline.

Table 2 *Number of employees in tourist boards from 2012 to 2015*

Tourist boards of	2012	2013	2014	2015
counties	73	77	77	76
cities	339	347	357	362
municipalities	215	226	226	220
areas	11	11	12	10
towns	17	18	22	19
islands	4	3	3	3
City of Zagreb	50	49	50	54
CNTB	68	66	72	118
Total	**777**	**797**	**819**	**862**

Source: Authors, based on the data from the Ministry of Finance

The number of employees in TBs rose from 777 in 2012 to 862 in 2015 (see Table 2). City TBs are the largest employer. Thus, the City of Zagreb tourist board has the highest number of employees. Every active city tourist board (excluding the tourist board of the City of Zagreb) has 3 employees on average and a county TB has as many as 3.8 employees. Other TBs have less than one employee on average. The most significant growth was recorded in 2013 and 2014, while in 2015 the number of employees decreased, together with the number of TBs. In terms of the number of employees per counties, the County of Split-Dalmatia and Primorsko-Goranska county are at the top of the list (with over 100 employees) (see Table 4). There are significant differences in the number of employees, reflecting the development of the tourist industry. In 2015, the tourist board of the City of Zagreb had one tourist office and five tourist information centres with 54 employees (the cost of 54 employees amounted to around HRK 10 million, or HRK 15,300 per employee per month).

2. Main sources of funding

TBs are non-profit organizations that do not earn operating revenues. The revenue determined by law includes: sojourn tax and membership fees, transfers from local and state budget, grants, revenues from allowed economic activities, property owned etc. The main sources of tourist boards' funding are sojourn tax and membership fees (together with the membership contributions), with the sojourn tax being a form of tourist tax. It is collected from tourists arriving to an area where a local tourist board has been established and is in operation and who are staying there overnight. The amount of the fee is determined by the Ministry of Tourism, depending on the season and categorization of the tourist locality. Membership fees are paid by legal and natural persons engaged in tourism-related activities (e.g. accommodation, catering, transportation and the like) within the area of a tourist board.
Revenues earned from the sojourn tax and membership fees and contributions are allocated in equal amounts to the local TB (of a city or municipality) in the amount of 65%, 10% receives the county TB within which a certain local TB is established and 25% are remitted to the CNTB. Exceptionally, if a TB has a gross income of less than HRK 200 thousand, the key to the sojourn tax allocation is 80% to the municipality or city tourist board and 20% to the county TB. In the case of allocation of income from membership fees, 85% flows to the municipality or city TB and 15% to the county TB. The amount of the sojourn tax and membership fees is determined in the first half of the current year for the following year.

The amount of the sojourn tax depends on the class of the tourist locality, classified based on the quality, from the highest-quality class A down to the class D and other non-classified localities. The amount also depends on the time of the stay, namely whether the tourist is staying during the peak season, pre- or post-season or off-season. The sojourn tax is paid by the tourist to the accommodation provider (typically included in the total price), and the accommodation provider pays this amount in favour of the local TB operating in that area and distributing the collected sum.The amount of membership fee is determined according to the special rates established by the Act on Tourist Board Membership Fees (Official Gazette NN, No. 152/08, 88/10, 110/15, 121/16). The basis for calculating the membership fee is the total income of the taxpayer subject to corporate or personal income tax. The membership fee is paid depending on the type of business activity the taxpayer pursues and according to the tourist class of the place where the taxpayer pursues their activity.

3 Financial performance of tourist boards

Below is an analysis of financial performance and financial position of TBs from 2012 to 2015. For the most of the period, all TBs were operating positively and were running surpluses.

Table 3 *Tourist Boards' Performance from 2012 to 2015 (in millions of HRK)*

	2012	2013	2014	2015
Total income (CNTB excl.)	498	525	545	558
Total expense (CNTB excl.)	494	512	537	564
Deficit/surplus (CNTB excl.)	4	13	8	-6
Total income (CNTB incl.)	755	787	805	824
Total expense (CNTB incl.)	726	713	808	893
Deficit/surplus (CNTB excl.)	29	74	-3	-69

Source: Authors' calculation based on the data from the Ministry of Finance

Revenue and expense

The tourist boards (including the CNTB central office) have an average annual revenue of around HRK 0.8bn. Of the total revenues realized in 2015, 32% were realized by the central office of CNTB, followed by the city TBs. TBs recorded an increase in income over the entire period (see Table 4). It should be noted that operating revenue (sales, membership fees and contributions, sojourn tax) is the most significant source of revenue of TBs.

Table 4 *Revenue by type of TB from 2012 to 2015 (in millions of HRK)*

Tourist boards of	2012	2013	2014	2015
counties	72	77	86	87
cities	227	241	249	252
municipalities	122	126	129	134
areas	4	4	4	3
towns	8	9	9	10
islands	1	2	2	2
City of Zagreb	63	67	67	68
CNTB	257	262	260	266
Total	**754**	**787**	**805**	**822**

Source: Authors' calculation based on the data from the Ministry of Finance

In addition to the CNTB, other TBs annually account for about HRK 0.5bn of revenue. The total revenue of all TBs grew by 12% from 2012 to 2015. The steady growth of revenues is due to the successful tourist seasons marked by the increase in the number of tourists and the payment of sojourn tax. The highest revenue was recorded by the TB of the City of Zagreb, followed by the City of Dubrovnik and the City of Rovinj. The highest amount of sojourn tax in 2015 was charged by the TB of the City of Dubrovnik, and the largest income from the membership fees was earned by the TB of the City of Zagreb.

Most of the revenues were earned by TBs of the Istria County (HRK 120m), followed by the tourist boards of Primorje-Goranska (HRK 87m) and TBs of the Split-Dalmatia County (HRK 81m). In all continental counties, the main income is accounted for by grants (except for the tourist boards of the City of Zagreb, Zagreb and Karlovac County). The most common forms of grants are grants from local, county and state budgets. To a lesser extent, there are also foreign grants and donations of private persons. Owing to the small number of tourist arrivals in continental areas, the tourist boards in these counties cannot collect sufficient revenue from the sojourn tax in order to function independently.Most of the TBs in Adriatic counties earn most of their revenue from sojourn tax and membership fees. At the same time, the Istria County recorded the highest number of arrivals, overnight stays and the highest income from the sojourn tax in Croatia.Tourist boards in the counties of Međimurje, Varaždin, Virovitica-Podravina and Osijek-Baranja were the only ones to take advantage of the possibility of earning income from the EU funds in 2015.

The total amount of EU grants amounted to only HRK 1 million, though. The Ordinance on Subsidies to Tourist Boards in Underdeveloped Tourism Areas (Official Gazette NN, No. 132/17) established the possibility of granting aid to tourism underdeveloped areas. The beneficiaries are tourist boards implementing programs aimed at developing and improving the tourist offer and public tourist infrastructure in the tourism underdeveloped areas. Subsidies of the CNTB may be used for: a) Programmes and projects aimed at developing and improving tourist destination offers, b) Education programs/projects, c) Utilisation of EU funds and public tourist infrastructure, d) Programs and projects aimed at improving the activities of tourist boards. These grants are allocated from 7.5% of total paid tourist membership fees, which are paid into a special account of the CNTB. Even though all of the tourist boards in the continental counties - apart from the tourist board of the City of Zagreb City - could have taken the opportunity to develop the areas underdeveloped in terms of tourism, only 4 of the 13 county tourist boards of these counties took advantage of this opportunity.

The cost structure is dominated by operating expenses (labour costs, material expense and depreciation and amortization). The TB of the City of Zagreb has a specific cost structure in which a high share (32%) is made up of current grants with no clear purpose. TBs in the Adriatic area have a similar cost structure to those in continental Croatia - material expenses and employee costs prevail. The only difference is a high share of other expenses for which it is not possible to figure out the exact purpose.

Table 5 *Expenses per employee from 2012 to 2015 (in HRK)*

	2012	2013	2014	2015
All TBs per year	138,285	137,489	139,130	141,532
All TBs per month	11,524	11,457	11,594	11,794
CNTB - per year	162,617	158,783	163,651	257,360
CNTB - per month	13,551	13,232	13,638	21,447

Source: Authors' calculation based on the data from the Ministry of Finance

Annual expenses per employee (excluding CNTB employees) amounted to HRK 141.5 thousand in 2015, which is almost HRK 12 thousand per month (gross) (see Table 5). The average gross salary of employees employed by legal entities in Croatia in 2015 was HRK 8.055, while the costs per employee in tourist boards was 32% higher than the average gross salary in Croatia.The record-breaker in terms of the average annual and monthly salaries of employees is the CNTB with HRK 21.5 thousand per employee (gross) per month, which was 62% higher than the average gross salary in Croatia for 2015.

Assets and liabilities

The average value of all TB assets is around HRK 280 million, predominantly comprising the assets of the CNTB (see Table 6). Looking at the asset structure, the largest share is accounted for by the financial assets (in particular the money in bank accounts), which makes up more than half of the total assets of the tourist boards. Tourist boards of the Adriatic counties dispose with the majority of the assets.

Table 6 *Assets of tourist boards from 2012 to 2015 (in millions of HRK)*

Tourist Boards in	2012	2013	2014	2015
counties	20.3	25.6	25.9	26.2
cities	79.4	75.5	72.8	75.0
municipalities	40.7	44.7	43.5	42.0
areas	1.4	1.7	2.6	2.1
towns	5.9	6.3	6.5	7.2
islands	0.4	0.5	0.7	0.4
City of Zagreb	27.7	26.7	34.3	29.6
CNTB	71.2	133.2	114.2	100.5
Total	**247.0**	**314.2**	**300.5**	**283.1**

Source: Authors' calculation based on the data from the Ministry of Finance

Liabilities of TBs have been decreasing until 2015, with the growth that year being the result of a change in CNTB's accounting policy.[1] The most important liabilities include those for the employees and material expenses, while there were virtually no loan payables (see Table 7).

Table 7 *Total liabilities from 2012 to 2015 (in millions of HRK)*

Tourist Boards in	2012	2013	2014	2015
counties	8.6	11.8	12.3	11.4
cities	44.0	38.5	32.6	40.6
municipalities	17.8	16.9	15.9	15.8
areas	0.4	0.5	0.8	0.7
towns	1.5	1.6	1.5	2.0
islands	0.1	0.1	0.1	0.1
City of Zagreb	7.4	2.8	6.5	5.0
CNTB	15.4	17.0	17.9	67.5
Total	**95.2**	**89.1**	**87.5**	**143.0**

Source: Authors' calculation based on the data from the Ministry of Finance

[1] The CNTB Tourism Council adopted an Ordinance on Accounting Methods and Policies of the head office of CNTB, on a session held on 30 October 2015, which established the prerequisites for modifying the previous process of disclosure of revenues and expenditures in the activities of associated advertising in such a way as to reflect all liabilities for which there is adequate evidence that they have been settled in the maximum contracted amount, regardless of whether the invoice for such liabilities was received and liquidated.

TB's assets exceeded liabilities by 2.4 times, which is exceptionally good because the TBs had sufficient liquid assets to cover their liabilities. It is interesting that the highest amount of liabilities was recorded by the TBs in the area of Split-Dalmatia County, and the highest value of assets reported the TB of the City of Zagreb.

Financial ratios of tourist boards

The financial operations of tourist boards are rated based on selected financial ratios of liquidity, leverage, activity, effectiveness and profitability (see Table 8).

Table 8 *Financial ratios of tourist boards (CNTB excl.) from 2012 to 2015*

	2012	2013	2014	2015
Cash ratio	0.838	0.920	0.989	0.832
Current ratio	1.323	1.490	1.593	1.385
Leverage ratio	0.453	0.399	0.374	0.413
Collection period	159	154	210	262
Total operating efficiency	1.007	1.026	1.015	0.986
Net profit margin (in %)	0.951	2.731	1.610	-0.98
ROA (in %)	2.691	7.925	4.712	-2.99
ROE (in %)	3.781	12.366	6.868	-5.88

Source: Authors' calculation based on the data from the Ministry of Finance

TB's can generally settle most of their current liabilities with cash at bank and in hand. Current assets exceed current liabilities by 1.4 times. Non-current and current assets are mostly financed from long-term sources (capital and long-term liabilities). The overall liquidity rating is positive - tourist boards have sufficient funds to cover the current liabilities in the short term without any difficulties. The leverage ratio is decreasing, which is positive, as it indicates that funding from other sources is decreasing. Only 41% of the tourist boards' assets are funded through other sources, and the remaining part is funded by their own sources. TBs require less than a year to settle total liabilities from retained earnings and amortisation and depreciation.

From 2012 to 2014 tourism business operations were profitable, which is indicated by the total operating efficiency ratio which was over 1 in that period (excess of revenue over expenses). In 2015, there was a decrease in the efficiency due to reduced efficiency of extraordinary activities (extraordinary revenues dropped, and extraordinary expenses increased).All profitability ratios grew in 2013 over 2012, due to an increase in the level of excess income. In 2014, the efficiency and profitability of assets and capital dropped. In 2015, revenue shortages were realized and all efficiency and profitability ratios were negative.

4. Conclusion

There are more than 300 tourist boards in Croatia with the CNTB as the umbrella institution. These include tourist boards of cities, municipalities, counties, areas, towns and islands. At the level of all TBs (CNTB excluded), they earned nearly HRK 600 million in revenue per year, with income from sojourn tax, membership fees and membership contributions accounting for most of the revenues. The cost structure is dominated by material expenses, which is not surprising considering that the TBs spend most of their funds on information and promotion activities. The most significant expenses following the material costs are the increasing employee expenses. The total number of employees increased by about 11% in the three observed years.

Tourist boards are in a good financial position. Their assets exceed their obligations by 2.4 times, indicating that they are not over-indebted. TBs boast a solid liquidity and a low indebtedness level and generate a significant excess of revenue over expenses. As much as 56% of total TBs assets are accounted for by financial assets (mostly money in bank accounts). In 2015, there was a deterioration in business operations and the aggregate loss was recorded at the level of the entire sector. The loss in 2015 was caused by a long revenue collection period (196 days on average), but also by changes in the accounting policy.

By looking at the number, administrative organization and distribution of TBs, the question arises as to what extent the TBs realize the purpose they had been established for. It seems that the existing administrative framework of TB's operations has led to their excessive fragmentation in a relatively small administrative space. The existence of TBs at different levels of administrative structure leads to overlapping of authorities and unnecessary multiplication of activities (similar activities with similar effects are performed in the same area by tourist boards of counties, cities and municipalities, areas, towns, islands etc.). The fact that most TBs are operating at a surplus (excess) and having significant financial assets points to the possibility of reducing the membership fee, which presents an additional parafiscal charge for both legal and natural persons.

There is also a question of disproportionate distribution of revenue from the sojourn tax which is earned by approximately 95% of TBs of the Adriatic counties. Due to a small number of overnight stays, the continental boards have lower incomes and a lower chance of promoting and improving tourism in their area. The main objective of tourist boards should be the development of tourism in the whole of Croatia. Therefore, a different distribution of revenue from sojourn tax with the aim of promoting tourism in other attractive areas of the Republic of Croatia should be considered.

REFERENCES

Act on Tourist Board Membership Fees. *Official Gazette*, 152/08, 88/10, 110/15, 121/16.

Act on Tourist Boards and Promotion of Croatian Tourism. *Official Gazette*, 152/08.

Bajo, A. & Jurlina Alibegović, D. (2008). *Javne financije lokalnih jedinica vlasti*. Zagreb: Školska knjiga; Institut za javne financije; Ekonomski institute,.

Bakran, D. (2016). *Financijsko poslovanje neprofitnih organizacija: računovodstvo, financijsko izvještavanje, planiranje, financijsko upravljanje i kontrole, porezno određenje, revizija* Zagreb: Hrvatska zajednica računovođa i financijskih djelatnika.

Čavlek, N., Kesar, O., Prebežac, D. & Bartoluci, M. (2011). *Tourism - Economic Basics and Organizational System*. Zagreb: Školska knjiga.

Lončarić, B., Bolfek, B. & Stanić, M. (2014). Uloga turističkih zajednica u procesu stvaranja preduvjeta za konstituiranje regionalne turističke organizacije u Slavoniji. *Oeconomica Jandertina* (1), pp. 27-39.

Ministry of finance RC (2007). *Register of Non-Profit Organizations*. Zagreb: Ministry of finance RC.

Ordinance on Grants to Tourist Boards in Underdeveloped Tourism Areas. *Official Gazette*, 132/17.

The Register of Tourist Boards at the Ministry of Tourism and Ministry of Finance (available at: https://banovac.mfin.hr/rnoprt/).

Ana Bilandžić, mag. math.
Faculty of Economics in Osijek, J.J. Strossmayer University of Osijek
Trg Ljudevita Gaja 7, 31000 Osijek, Croatia
Phone: + 385 31 224 400 Fax: + 385 31 211 604
E-mail address: anag@efos.hr

NON-FINANCIAL DETERMINANTS OF SMES' GROWTH POTENTIAL

NEFINANCIJSKE DETERMINANTE POTENCIJALA ZA RAST MALIH I SREDNJIH PODUZEĆA

ABSTRACT

Fast growing small and medium-sized enterprises (SMEs) are of great importance to every national economy due to their ability to create jobs, increase competitiveness, generate revenues and boost innovation. As such, they have attracted attention of many scholars and researchers who direct their efforts toward identifying factors or predictors of growth. Most of them have developed their studies at national and institutional level (searching for policy recommendations that will lead to an environment favorable for fast growing SMEs to achieve their full potential), and at enterprise level (looking at specific strategic actions and managerial decisions that can be derived from an analysis of predominantly financial data).
This paper builds upon previous studies and introduces a new set of prospective predictor variables related to the entrepreneur's experience (in the context of industry, specific enterprise and entrepreneurial career in general), expertise (e.g. formal and informal education) and personality (e.g. risk tolerance, locus of control, goal orientation). The aim of the study is to explore the relationship and influence of entrepreneur-related variables on the growth potential of small and medium-sized enterprises. The sample consists of 199 SMEs and the prediction model is developed using logistic regression. The results demonstrate an importance of entrepreneur-related variables (experience, risk-taking propensity and locus of control), organizational practices and technology in achieving high-growth potential.

Key words: *growth prediction, entrepreneur's personality, small and medium-sized enterprises, logistic regression.*

SAŽETAK

Brzorastuća mala i srednja poduzeća (MSP) od velike su važnosti za svako nacionalno gospodarstvo zbog svoje sposobnosti stvaranja radnih mjesta, povećanja konkurentnosti, generiranja prihoda i poticanja inovacija. Kao takva, privukla su pozornost mnogih znanstvenika i istraživača koji usmjeravaju svoje napore prema prepoznavanju čimbenika ili prediktora rasta. Većina je razvila svoja istraživanja na nacionalnoj i institucionalnoj razini (u potrazi za policy preporukama koje će dovesti do povoljnog okruženja u kojem će brzorastući MSP-i moći ostvariti svoj puni potencijal), te na razini poduzeća (gledajući specifične strateške akcije i upravljačke odluke koje mogu biti izvedene iz analize pretežno financijskih podataka).
Ovaj se rad temelji na prethodnim istraživanjima i uvodi novi skup potencijalnih prediktorskih varijabli vezanih uz poduzetnikovo iskustvo (u kontekstu industrije, konkretnog poduzeća i poduzetničke karijere općenito), stručnosti (npr. formalno i neformalno obrazovanje) i osobnosti (npr. tolerancija rizika, lokus kontrole, usmjerenost na ciljeve). Cilj istraživanja je istražiti odnos i utjecaj varijabli vezanih uz poduzetnika na mala i srednja poduzeća. Uzorak se sastoji od 199 MSP-a, a model predviđanja je razvijen pomoću logističke regresije. Rezultati pokazuju važnost varijabli

vezanih uz poduzetnika (iskustvo, sklonost preuzimanju rizika i lokus kontrole), organizacijskih praksi i tehnologije u ostvarivanju potencijala visokog rasta.

statements in his paper, stating that two-thirds of new jobs created in the USA come from the top 5% of enterprises by employment growth, and NESTA's (2009) research showed that 6% of all enterprises in the UK are high-growth enterprises, and they are responsible for up to half of new jobs created. One of the main concerns expressed by Weinzimmer, Neubaum, and Freeman (1998) is the fact that research is quite scattered, which becomes a problem when results are compared, although it seems that this has improved by the mid-2000s, according to Barringer, Jones and Neubaum’s (2005) overview of the literature.

Research concentrates on three possible categories that influence high-growth: characteristics of the entrepreneur, the enterprise and the environment. In the context of environment, the most commonly found are studies on different barriers to growth. These include institutional barriers (Davidsson, Henreksson, 2002), organizational and social barriers (Bartlett, Bukvic, 2001), and financial barriers (Becchetti, Trovato, 2002).

One of the most studied groups of factors that possibly influence growth are the characteristics of the entrepreneur. These include age, gender, education, experience, skills and the personality of the founder, i.e. owner of the firm. Results of studies often differ, and sometimes they are even contradictory. Age of the entrepreneur has been shown to have a negative relation to a firm becoming high-growth (Welter, 2001). Keeping in mind that it can be assumed that with higher age an entrepreneur would have greater industry experience, the relation should be transferred, but that is not the case. Walsh et al. (2001) mention a positive relationship between industry experience of the founder and high-growth. Different research shows that enterprises owned by male entrepreneurs grow faster as compared to enterprises owned by female entrepreneurs (Cooper, Gimeno-Gascon, Woo, 1994), and that high-growth is positively related to the level of education (Kolvereid, Bullvag, 1996; Peńa, 2002). Personality traits and skills that are often observed in studies include need for achievement, motivation for growth, risk-taking propensity, social skills and self-efficacy. Numerous studies (Kolvereid, Bullvag, 1996; Delmar, 1996; Peńa, 2002) confirmed the expected positive relationship between an individual’s motivation for growth and the probability for their business to be (i.e. to become) a high-growth business. Regarding need for achievement, as part of motivation theory, it was also shown that, with higher need for achievement, the probability of achieving high-growth will be higher (Lau, Busenitz, 2001; Levie, Autio, 2002). As for risk-taking propensity, research does not show unanimous findings: while Palich, Bagby (1995) have not found a significant relation between it and high-growth, others (Cassia, Cogliati, Paleari, 2009; Levie, Autio, 2013) have found a positive one. Self-efficacy has a strong positive relation to achieved growth, according to Baum (1994), and social skills are significantly linked to financial success of a new venture (Baron, Tang, 2008). Barringer, Jones and Neubaum (2005) found high-growth to be positively linked to experience, industry and entrepreneurial, and higher education (they used this as a proxy for entrepreneurial skills and abilities, such as search skills, foresight, imagination, and computational and communication skills).

Research on characteristics of the enterprise can usually go in two directions, one includes observing financial indicators (Mateev and Anastasov, 2010; Lubrano Lavadera, 2012; Sampagnaro 2013), which covers groups of liquidity, productivity, leverage, debt and activity ratios. The other most frequently includes age and size, human capital, level of R&D, innovation, organizational learning, entrepreneurial orientation and financial structure. Back in 1931, Gibrat published his research stating that the growth rate of firms is independent of their size (Relander, 2011), which became known as Gibrat's law. Since then, studies have shown that the law ceased to be valid and that larger firms grow at a significantly higher proportional rate than small firms (Samuels, 1965). But, most recent studies conclude that there is a negative relation between high-growth and size of the enterprise (Botazzi, Secchi, 2003; Yasuda, 2005). The negative relationship also applies to age (Geroski, Gugler, 2004; Yasuda, 2005). High-growth is usually positively linked to innovation (Fischer, et al. 1997; Wang and Chang, 2005; Barringer, Jones and Neubaum, 2005). Janczak and

Bares (2010) emphasize the distinction that innovation in high-growth SMEs is not mainly associated with generating new technologies, but more with new applications of resources and new organizing processes. Business strategies that keep track of creating unique value for their products and product superiority improve potential for growth (Barringer, Jones and Neubaum, 2005). Diaz Hermelo and Vassolo (2007) conclude that strategies that include diversification of products do not have a significant relationship with growth, but that geographic market diversification and using new technologies have a significant positive relationship. Research conducted by Barringer, Jones and Neubaum (2005) and Janczak and Bares (2010) mentions the importance of human capital, especially having skilled staff. Barringer, Jones and Neubaum (2005) also accentuate the importance of having a growth-oriented vision by providing information that almost 60% of high-growth firms in their study had put their growth vision in writing, while the same was true for only 15% of small growing firms. How a business finances its venture, externally or internally, seems to be of importance as well, but contradictory results can be found. A positive link of availability or use of external finances was reported by Storey (1994), Cooper, Gimeno-Gascon and Woo (1994), Becchetti and Trovato (2002), while Sampagnaro (2013) states that there is a negative link and that internal cash flow is the most relevant factor of growth.

Most of the mentioned studies search for determinants of growth, this research differs because of its emphasis on high-growth. Also, it differs from the above studies, because it provides a quantitative model built on variables that are mentioned in existing theory.

3. Methodology

3.1. Data and variables

The dataset used in this research initially consisted of 310 SMEs in Croatia. It consisted of two parts. The primary source was a questionnaire[1], which was both set up on the internet and handed out in paper form to some entrepreneurs. It is built on findings obtained by studying previous research on determinants of the potential for growth, especially high-growth, of SMEs. It was adapted from Zhou and Wit (2009). The questionnaire covers three main categories that were found to be relevant – the entrepreneur, the enterprise and the environment. This study concentrates on the first two categories to create a model, while the environment category is analyzed descriptively. The secondary source of data is the database provided by Croatia's Financial Agency (FINA), which contains financial statements of all enterprises in Croatia. This was exclusively used to create the dependent variable. An SME is defined as high-growth if it has an average annualized growth in sales greater than 20% a year, over a three-year period (OECD, 2010).

Data derived from financial statements covers the period 2012-2015. After controlling for outliers and for enterprises, i.e. entrepreneurs that answered the questionnaire multiple times, the dataset was reduced to 278 entries. These were used for factor analysis. To be able to create the dependent variable, an enterprise needed to be active for at least four consecutive years, and by including only those that meet this condition, the dataset for logistic regression consisted of 199 enterprises.

3.2. Methods

To reduce the high number of variables, factor analysis was used, i.e. a new set of variables was created. This process starts with only the p variables X_i, $i = 1,2,\dots,p$, at hand. Its goal is to find a new set of variables, F_j, ; $j = 1,2,\dots,r$ and U_i , $i = 1,2,\dots,p$, and numbers a_{ij}, for which the next set of equations is valid:

[1] The questionnaire is available from the authors upon request.

$$
\begin{aligned}
X_1 - \mu_1 &= a_{11}F_1 + a_{12}F_2 + \cdots + a_{1r}F_r + U_1 \\
X_2 - \mu_2 &= a_{21}F_1 + a_{22}F_2 + \cdots + a_{2r}F_r + U_2 \\
&\vdots \\
X_p - \mu_p &= a_{p1}F_1 + a_{p2}F_2 + \cdots + a_{pr}F_r + U_p
\end{aligned} \tag{1}
$$

F_j are called common factors and are assumed to have mean 0 and variance 1. U_i are unique factors and are assumed to have mean 0, but variance σ_i^2. Additionally, it is assumed that the unique and common factors are uncorrelated. Elements a_{ij} are called factor loadings.

By marking **A** to be the factor pattern matrix consisting of a_{ij} and Σ to be the covariance matrix of x with, it can be shown that:

$$\Sigma = \mathbf{AA}' + \Psi, \tag{2}$$

where Ψ is the vector of variances of U_i. The right side of the equation consists of unobserved data, so this process is not unique, i.e. different factors can be obtained (Jobson, 1992).

Selection procedures – backward and forward – were used to choose variables that have the best chance to create an acceptable model. Backward procedure starts with a model consisting of all the variables, one by one is left out starting from the variable with the lowest p-value. Forward procedure starts with adding one by one variable with the highest p-value. Both repeat their process until the desired number of variables is reached (Bursac et al., 2008).

In this paper, logistic regression was used since the dependent variable is defined to equal 1 if the firm has achieved high-growth, and 0 otherwise, i.e. the dependent is a binary variable. By denoting p to be the probability for a firm to become high growing and $x_1, x_2, \dots x_r$ to be the r independent variables, the logistic function becomes:

$$p = \frac{e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_r x_r}}{1 + e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_r x_r}} \tag{3}$$

The goal is to obtain β_i, $i = 1, 2, \dots, r$, the so-called regression coefficients. Being that equation (3) is non-linear, logistic transformation is used to simplify further modelling (Agresti, 2002):

$$logit(y) = \ln\frac{p}{1-p} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_r x_r. \tag{4}$$

To obtain the regression coefficients, the sample likelihood function conditional on x_i is maximized:

$$L(\beta|y) = \prod_{i=1}^{n} p_i^{y_i}(1-p_i)^{1-y_i} \tag{7}$$

This process includes partial differentiation and the regression coefficients are obtained by using iterative processes (Czepiel, 2002). To get the model the built in function glm() in R was used.
The significance of variables in the model was tested through command anova(model,test="Chisq") in R. It adds one by one variable to the model and tests if it holds significant information through likelihood-ratio chi-square test.

Descriptive and factor analysis, as well as modelling were done using Revolution R Enterprise, Version 7.3.0.

4. Results

This paper builds its results on research conducted in two steps. The first step includes factor analysis of 26 variables concerning the entrepreneur and 27 variables related to the enterprise. All variables are measured on the same scale (Likert-type questions from 1 to 5). The initial step was to study the questionnaire and draw possible factors from it on intuition, which resulted in 9 possible factors. Until every factor had 4 or more variables in them, the number of factors was reduced. In the end, factor analysis produced 6 factors. Also, one by one, variable that did not relate to any factor, or that did relate to more than one factor, was excluded. The obtained factors and their respective Cronbach's alphas can be seen in Table 1. Descriptive analysis of the obtained factors showed that only 3 factors displayed a link to high-growth of the enterprise.

Table 1 *Obtained factors*

Factor	Market oriented	Readiness for growth	Experience	Goal oriented	Risk-taking propensity	Idea driven
Cronbach's alpha	0.813	0.802	0.843	0.797	0.744	0.726
t-test p-value	0.275	0.043**	2.51E-05**	0.491	0.03**	0.215

Source: author

The second step was done on a new dataset consisted of 6 factors and 55 variables, including age, education, skills, personality of the entrepreneur and orientation towards growth, enterprises' counselling sources, attitude toward employees, age of technology used and age of enterprise. To get an idea on which variables to start modelling, selection procedures were used. Both forward and backward procedures were applied.

Table 2 *Logistic model for high-growth*

	Regression coefficient	ANOVA - χ^2 p-value
(Intercept)	-0.75553	
Experience	-101405	0.000145
Risk-taking propensity	0.511582	0.033749
Age of technology – 1 to 5 years	-0.82658	0.041881
Age of technology – more than 5 years	-2.11542	
Every employee has their specific task	1.231192	0.05629
Locus of control	-0.36093	0.019591
Hit rates: • Total – 72.59% • High-growth – 85.3% • Non-high-growth – 69.94% Area under the ROC curve – 0.8107 Kolmogorov-Smirnov statistic – 0.5707		

Source: author

The final model has two factors obtained in the first step – entrepreneurs' experience and their will to take risks. The 'experience' factor is constructed of three variables: length of working in the current branch, length of work experience and length of working in the current enterprise. Its negative coefficient implies that with higher experience of the entrepreneur the probability for growth is lower. Because of the first variable in the factor, it is directly correlated to the age of the enterprise and hence a negative regression coefficient is in line with previous research that with age of the enterprise the probability for achieving high growth will be smaller. The same applies to locus of control. Technology is a categorical variable with three categories, in the process of modelling every category is turned into a binary variable. These binary variables are restricted so that only one of them can equal 1 at a time. Its base variable is the category that technology used in the enterprise is less than a year old. Each following category has a negative, decreasing value, meaning that using technology older than five years will lower the probability of high-growth more than using technology that is between 1 and 5 years old. The other factor is risk-taking propensity, which is constructed of four questions with answers on a Likert scale – "I like gambling", "I take action, even if it involves risk", "I'm ready to take risks" and "Compared to other enterprises, we take higher risks". Its regression coefficient is positive, which means that with higher risk-propensity of the entrepreneur, the probability to become a high-growing enterprise will increse. The same is true for the last remaining variable, which is also a question on a Likert scale – "Every employee has their specific tasks".

Additionally, descriptive analysis was done to get an insight into what prevents them, in their opinion, from becoming a high-growing enterprise. The questionnaire includes 23 questions on various barriers, and 4 constructs were created from them: barriers imposed by the state, by financial institutions, by the market, and self-imposed barriers, including technology, skills of the management team, hiring profile and cash flow. Answers are on a Likert scale with no outliers, so the mean itself holds a lot of information. According to entrepreneurs, their biggest barriers to achieving high-growth are barriers imposed by the state and financial institutions with means above 3 (3.661 and 3.121 respectively), while self-imposed barriers have a mean of 2.662.

5. Conclusion and discussion

The aim of this paper was to produce a model to predict if an enterprise will achieve high-growth, based on variables related to the characteristics of the entrepreneur and the enterprise. This models implications should be easy for entrepreneurs to understand and how to apply them should be clear. Hence, its biggest beneficiaries would be entrepreneurs, i.e. owners and CEOs of enterprises, since it would be based on variables that can be affected in relatively simple ways by an individual. The model was created on the basis of answers of 199 entrepreneurs, related to their background and personality and the characteristics of their enterprises. To obtain the model, factor analysis was first used to reduce the number of variables, after which logistic regression was done.

The model consists of 5 variables, including two factors and one categorical variable. One factor that made the cut into the model is risk-taking propensity, which implies that entrepreneurs should be ready to take more risks, since some of them are hidden opportunities that often go unexploited, and this is in accordance with previous studies. The variable of technology used contributed to decreasing the probability for growth, which is also in line with previous research. Some entrepreneurs have a hard time investing in new technology because it does not have an immediate effect on a better cash flow, but the expenses are instant. The model exhibits a negative relationship between high-growth and experience of the entrepreneur, which is contrary to other studies. This could be because experience is a factor derived from factor analysis and is indirectly related to the age of the enterprise. Barriers in the environment that were perceived to be important by respondents are mainly barriers that concern the state and financial agencies. An acceptable model was obtained without including those barriers and because of it, it is even more interesting that locus of control contributes to the quality of the model. This hints that changing one’s attitude will go a long way in achieving higher growth, i.e. the attitude of an entrepreneur that they can strongly influence future outcomes significantly increases the potential for their enterprise to achieve high-growth.

Room for improvement of this study can be found in the relatively small size of the dataset. Better results can be expected by adding more variables into the model, which is not possible at this point. Also, other methods could potentially produce better results than logistic regression, possible options being structural equation modelling and machine learning methods.

Acknowledgment

This research is funded by Croatian Science Foundation under grant No. HRZZ-IP-2013-11-3933 “Development and application of growth potential prediction models for SMEs in Croatia”.

REFERENCES

Agresti, A. (2002): ***Categorical Data Analysis***, New Jersey: John Wiley & Sons, Inc.

Audretsch, D.B. (2012): ***Determinants of High-Growth Entrepreneurship***, Report prepared for the OECD/DBA International Workshop on ―High-growth firms: local policies and local determinants, Copenhagen
Baron, R. A., Tang, J. (2009): ***Entrepreneurs' social skills and new venture performance: Mediating mechanisms and cultural generality***. Journal of Management, 35(2), 282-306.
Barringer, B.R., Jones F.F., Neubaum D.O. (2005): ***A quantitative content analysis of the characteristics of rapid-growth firms and their founders***. Journal of business venturing. 20(5): 663-687.
Bartlett W, Bukvic V. (2001): ***Barriers to SME growth in Slovenia***, MOCT-MOST: Economic Policy in Transitional Economies. 11: 177-195.
Baum, R. (1994): ***The relation of traits, competencies, vision, motivation, and strategy to venture growth***, University of Maryland, College Park, MD.
Becchetti, L., Trovato, G. (2002): ***The determinants of growth for small and medium sized firms. The role of the availability of external finance***, Small Business Economics, 19(4), 291-306.
Bottazzi, G., Secchi A., (2006): ***Explaining the distribution of firm growth rates***, The Rand Journal of Economics, 37(2), ABI/INFORM Global pp. 235-256
Bursac, Z., Gauss, C. H., Williams, D. K. and Hosmer, D. W. (2008): ***Purposeful selection of variables in logistic regression***, Source code for biology and medicine, Vol 3*,* No. 1, pp 1.
Cassia L, Cogliati GM, Paleari S. (2009): ***Hyper-Growth Among European SMEs: An Explorative Study***. SSRN: https://ssrn.com/abstract=1389521 [April 29, 2009].
Cooper, A.C., Gimeno-Gascon, F.J. and Woo, C.Y. (1994): ***Initial human and financial capital as predictors of new venture performance***, Journal of Business Venturing,9:371-395.
Czepiel, S.A. (2002): ***Maximum likelihood estimation of logistic regression models: theory and implementation***, http://czep.net/stat/mlelr.pdf [Accessed 09/02/18].
Davidsson, P. (1989): ***Continued Entrepreneurship and Small Firm Growth. Doctoral dissertation***. Stockholm: Stockholm School of Economics.
Davidsson, P., Henreksson, M. (2002): I***nstitutional determinants of the prevalence of start-ups and high-growth firms: evidence from Sweden***, Small Business Economics,19(2): 81
Delmar, F. (1996): ***Entrepreneurial behavior and business performance***. Stockholm School of Economics, Stockholm.
Delmar, F. (2006): ***Measuring growth: methodological considerations and empirical results***, Entrepreneurship and the growth of firms, Vol. 1, pp. 62-84.
Diaz Hermelo, F. and Vassolo, R., (2007): ***The Determinants of Firm's Growth: An Empirical Examination***, Revista ABANTE, Vol. 10, No. 1, pp. 3-20.
Fischer, E. , Reuber, A.R., Hababou, M., Johnson, W. and Lee, S. (1997). ***The role of socially constructed temporal perspectives in the emergence of rapid growth firms***, Entrepreneurship theory and *practice*, vol. 22, pp. 13-30.
Freel, M.S., Robson, P.J., (2004): ***Small firm innovation, growth and performance evidence from Scotland and Northern England***. International Small Business Journal. 22(6): 561-575.
Geroski, P. A. and Gugler, K. (2004): ***Corporate growth convergence in Europe***. Oxford Economics Papers, 56: 597-620.
Henrekson, M., Johansson D. (2010): ***Gazelles as job creators: a survey and interpretation of the evidence***, Small Business Economics, Springer
Janczak, S. and Bares, F. (2010): ***High Growth SMEs: The Evolution of the Gazelles and Some Evidence from the Field***, Rogers – J.A.-Bombardier Chair of Entrepreneurship Working Paper: 2010-01.
Jobson, J.D. (1992): ***Applied multivariate data analysis: volume II: Categorical and Multivariate Methods***. New York: Springer Science & Business Media.
Katua, N.T. (2014): ***The Role of SMEs in Employment Creation and Economic Growth in Selected Countries***, International Journal of Education and Research 2(12) 461
Kolvereid, L., and Bullvag, E. (1996): ***Growth intentions and actual growth: The impact of entrepreneurial choice***, Journal of Enterprising Culture, vol. 4, no. 1, pp. 1-17.;

Lau, C., Busenitz, L. W. (2001): ***Growth Intentions of Entrepreneurs in a Transitional Economy: The People's Republic of China***,Entrepreneurship Theory and Practice,26(1):5-20
Lee, D. Y. and Tsang E.W.K., (2001): ***The effects of entrepreneurial personality background and network activities on venture,*** Journal of Management Studies 38(4)
Levie, J. and Autio, E. (2013): G***rowth and growth intentions: A meta-analysis of existing evidence,*** Discussion paper, Enterprise Research Centre.
Lubrano Lavadera, G., (2012): ***Venture capital and high growth firms: developing a predictive model***, https://www.researchgate.net/profile/Giuseppe_Lavadera/publication/273682763_Venture_Capital_and_High_Growth_Firms_developing_a_predictive_model/links/55085c900cf26ff55f818215/Venture-Capital-and-High-Growth-Firms-developing-a-predictive-model.pdfMason G, Bishop K, Robinson C. (2009): ***Business Growth and Innovation: The Wider Impact of Rapidly-Growing Firms in UK City-Regions***, NESTA: London.
Mateev M, Anastasov Y. (2010): ***Determinants of small and medium sized fast growing enterprises in central and eastern Europe: a panel data analysis***. *Financial Theory and Practice*. 34(3): 269-295.
Morone P, Testa G. (2008): ***Firms growth, size and innovation: An investigation into the Italian manufacturing sector***, Economics of Innovation and New Technology, 17(4):311
Organization for Economic Co-operation and Development. (2010): ***High-growth enterprises: what governments can do to make a difference***. OECD Publishing.
Palich, L. E., Bagby, D. R. (1995): ***Using cognitive theory to explain entrepreneurial risk-taking: Challenging conventional wisdom***, Journal of Business Venturing, 10(6): 425-438.
Peńa, I. (2002): ***Intellectual capital and business start-up success***. Journal of Intellectual Capital. 3(2):180-198.
Relander, P. (2011): ***Gibrat's law revisited - A study on Gibrat's law with models of industry dynamics Economics***, Master's thesis, Aalto University School of Economics
Sampagnaro, G. (2013): ***Predicting rapid-growth SMEs through a reversal of credit-scoring principles***, International Journal of Entrepreneurship and Small Business, 18(3): pp. 313-331
Samuels, J. M. (1965): ***Size and the Growth of Firms,*** The Review of Economic Studies, Vol. 32, No. 2 , pp. 105-112
Stangler, D. (2010): ***High-Growth Firms and the Future of the American Economy*** SSRN: https://ssrn.com/abstract=1568246, (accessed 20. Februrary 2018)
Storey, D. J. (1994): ***Understanding the small business sector***. London: Routledge.
Yasuda, T. (2005): ***Firm growth, size, age and behavior in Japanese manufacturing***. Small Business Economics, 24(1): 1-15.
Wang, W. Y. and Chang, C. (2005): ***Intellectual capital and performance in causal models: Evidence from the information technology industry in Taiwan***, Journal of intellectual capital, Vol 6, No. 2, pp 222-236.
Walsh, S.T., Kirchhoff, B.A., Boylan R. L. (1996): ***Founder Backgrounds and Entrepreneurial Success: Implications for Core Competence Strategy Application to New Ventures***, in P.D. Reynolds et al. Frontiers of Entrepreneurship Research, 1996, Babson College, Wellsley, MA, pp. 146-154
Weinzimmer, L. G., Nystrom, P. C. and Freeman, S. J. (1998): ***Measuring organizational growth: Issues, consequences and guidelines***, Journal of management, 24(2), pp. 235-262.
Welter, F. (2001): ***Who wants to grow? Growth intentions and growth profiles of (nascent) entrepreneurs in Germany***, Frontiers of Entrepreneurship Research: 91-147. Wellesley
Wiklund, J., Patzelt, H. and Shepherd, D. (2009): ***Building an Integrative Model of Small Business Growth***, Small Business Economics. 32. 351-374.
Wymenga, P., Spanikova, V., Barker, A., Konings, J., Canton, E. (2012): ***EU SMEs in 2012: at the crossroads, Annual report on small and medium-sized enterprises in the EU*, 2011/12**, Ecorys, Rotterdam

Zhou, H. and de Wit, G. (2009): ***Determinants and Dimensions of Firm Growth***. SCALES EIM Research Reports (H200903). Available at SSRN: https://ssrn.com/abstract=1443897 (February 12, 2009)

Domagoja Buljan Barbača, PhD
University of Split, Department for Professional Studies/
Tenured College Professor
Kopilica 5, 21 000 Split
Phone: +385 (0) 917270300
E-mail address: dobuljan@oss.unist.hr

Antonia Čobanov, BA
University of Split, Department for Professional Studies/
Student at Specialist graduate study professional programme Accounting and Finance
Kopilica 5, 21 000 Split
Phone: +385 (0) 958088189
E-mail address: s.antoniacobanov@gmail.com

FINANCIAL LITERACY INCREASE OF THE TARGETED GROUPS

FINANCIJSKO OPISMENJAVANJE CILJANIH SKUPINA

ABSTRACT

Financial literacy is a topic that has attracted the attention of the wider public in the last ten years. Financial experts, institutions and various associations are trying to find models of financial literacy for the citizens of the Republic of Croatia. Efficacy of implemented education is not measured, and there is a lack of clear segmentation of the population to which it is directed. This paper will present and explore the success of education conducted with a targeted group of students of Franciscan Youth. The success of the offered knowledge and competences will be analyzed through the prism of the group's specificity.

Keywords: *financial literacy, segmentation, education.*

SAŽETAK

Financijska pismenost tema je koja u posljednjih desetak godina zaokuplja pažnju šire javnosti. Financijski stručnjaci, institucije i razne udruge pokušavaju pronaći modele provođenja financijskog opismenjavanja građana Republike Hrvatske. Efikasnost provedenih edukacija nije mjerena, a nedostaje i jasna segmentacija populacije kojoj je usmjerena. U ovom radu prikazat će se i istražiti uspješnost edukacije provedene na ciljanoj skupini studenata članova Franjevačke mladeži. Analizirat će se uspješnost usvajanja ponuđenih znanja i kompetencija sagledanih kroz prizmu specifičnosti grupe.

Ključne riječi: *financijska pismenost, segmentacija, edukacija.*

1. Development of financial literacy approaches

The specificity of the financial illiteracy problem is primarily visible in the personal finances of the physical person. In the process of collecting, allocating and spending money, the key to success is knowledge and having the right competences to deal with money. Success in achieving personal desires and goals brings the individual to the prosperity and financial freedom that defines them as a person who owes nothing to anyone (Buljan Barbača, 2014, 11). The prerequisite of financial freedom is a satisfactory level of financial literacy. The process of managing personal finance today requires continuous learning about finance and financial matters. Yet, the most important thing is to have a basic financial education to fully understand what is written here.

Financial literacy is defined by the Organization for Economic Co-operation and Development (OECD) as a process whereby financial consumers / investors improve their understanding of financial products and concepts and through information, guidance and / or objective advice, develop the skills and security needed to become more aware of financial risks and opportunities to make informed decisions, to know where to turn for help, and to take other effective measures to improve their financial well-being(OECD, 2005, 13). This is a process that provides individuals with the knowledge to make simpler and more effective choices in making day-to-day financial decisions. We must raise awareness that all our decision making from the purchasing of foodstuffs to the selection of financial products that ensure cumulative life savings or long-term loans, will all have a crucial impact on the quality of our life.

In addition to the individual's abilities, there are various other factors that influence financial decision making: experience, skills, information processing, age, economic and social environment, and other specific factors. All these factors need to be taken into consideration when setting out to increase financial literacy.

The importance of financial literacy is traced from the individual to their environment and ultimately to the national economy. The importance of financial literacy for the individual and on the society to which they belong should be an incentive for national, public and private organizations to enhance the implementation of financial education for all individuals with special consideration being taken regarding their specific needs.

1.1. Activities of professional institutions

The first major global research on the topic of financial literacy was performed fifteen years ago. Research was carried out by the OECD, the World Bank and the European Commission (OECD, 2005). Encouraged by the growing interest of Member States to improve consumer literacy of their citizens, the OECD, started financial education projects in 2003. The OECD also established the International Financial Education Network (INFE), which collects data and performs research on this topic, advocates recognition of international standards, and provides instructions, guidance and co-ordination for those who are just starting to attend financial education programmes.

The low levels of financial literacy in Croatia has been significantly influenced by the very fast development of the financial market, technology development, and the pension system reform, which resulted in a greater number of financial products being available to citizens. The first venture undertaken by the Croatian Banking Association (CBA) in 2006 was the launch of the financial literacy workshops (CBA, 2010). These were based on the experience of other European countries and the recommendations of the World Bank.
The first study in Croatia with a special focus on the needs of Croatian citizens was conducted by the World Bank in 2010 under the title "Croatia - Diagnostic Review of Consumer Protection and Financial Literacy"(World Bank, 2010).

Based on the information obtained, the Ministry of Finance began the preparation of a strategic document for encouraging and improving the financial literacy for the people of the Republic of Croatia. The Ministry of Finance prepared the "National Strategic Framework for Consumer Literacy for the period 2015 to 2020 and the Action Plan for Improving Consumer Financial Literacy for 2015"(Ministry Of Finance, 2015), which was adopted by the Government of the Republic of Croatia. The aim of the National Strategic Framework for Consumer Literacy is to provide a basis for a systematic and comprehensive integration of financial education into educational processes and encourage state bodies, local and regional organizations, non-governmental organizations, financial institutions and other legal entities such as professional associations and professional associations active in financial areas, social partners and communication channels, and networks to actively participate in financial education (Official Gazette, 2015).

Through the regular educational system and informal forms of education, financial literacy should be taught to different age groups, from pre-school children to elderly citizens. The Ministry of Science, Education and Sports has made the decision to adopt programs including multidisciplinary and interdisciplinary content on Citizenship Upbringing and Education in primary and secondary schools (Official Gazette, 2014). The Ministry of Science, Education and Sports in cooperation with the Education Agency are responsible for carrying out formal education. The national strategic framework, through informal modalities of education, encompasses individuals who are currently not covered by any form of formal education. Appropriate activities such as courses, workshops, seminars, issuing financial literacy brochures, up-to-date information on the website and other activities are undertaken. It also emphasizes how informal education particular affects the overall results of financial education, and the need for generational and the intergenerational exchange of information and experiences.
The Croatian Financial Services Supervisory Agency (CFSSA) recognizes it is their business to improve financial literacy and is taking adequate action. In co-operation with the Croatian National Bank and co-ordination of the Ministry of Finance, CFSSA co-financed the implementation of the first national research on financial literacy. Based on the Action Plan for the Improvement of Consumer Literacy from 2015, a survey was carried out according to OECD methodology, making the results comparable to the results of other countries. In co-operation with the Croatian National Bank, the results on the financial literacy research in Croatia were analysed and presented, they showed that the average score for the chosen sample was 11.7 out of a possible 21 points (CFSSA, 2016).

1.2. The consequences of low level of financial illiteracy

The results of the national research performed on the level of financial literacy showed that the tested sample scored 55% of the points (CFSSA, 2016). These assessment results certainly called for serious considerations of the issues and represented a cry out for the implementation of changes in approaches to financial literacy.

The changes in the financial sector were very fast and created possibilities for new, different and complex financial instruments to become part of the everyday life for ordinary people. Financial instruments, previously used only by experts, are available today to all citizens. Financial education has been overlooked by many generations and the consequences of this ignorance are visible now and will be visible for generations to come.
The consequences are clear, Croatian citizens owe 40 billion kuna, and in the period from 2011 to 2017, citizens' debt grew six times (Štedopis-Institute for Financial Education, 2017). The complexity and incomprehensibility of the right financial language leads to taking decisions which may not be optimal for the final user-citizen.

While there are system failures in the process of familiarizing the population with relevant financial terms, we cannot ignore the lack of personal responsibility, which deepens the problem. Even today, through a media-informed world, the individual is reluctant to keep track of information and events on the financial market. Such an attitude increases the information asymmetry that brings the financial institution to a significant advantage and the individual to a riskier situation that can have significant consequences on their financial future.

Personal awareness of the importance of providing information on services and assessing their appropriateness for a given situation is the best approach to using financial instruments. There are more and more financial instruments and services available and an increasing level of financial literacy is needed to enable the individual to understand the financial risks and opportunities facing them.
In the process of searching out financial instruments which will lead to the fulfilment of personal goals, an individual is exposed to many sources of information.

More and more web pages, shows, blogs, networks, books, articles, and other means of personal finance announcements, provide individuals with a wealth of information and advice. By trying to identify what best meets their needs through what is being offer, an individual often fails to find the optimal solution to meet their real needs. Characterized by one's own goals, possibilities, attitudes, emotions, and prejudices, the individual often fails to find the right solution to best meet their needs. This image of today is increases the appeal to investing in financial literacy so that an individual can get the adequate financial knowledge and learn the skills that will help them avoid making decisions that could lead to negative effects on their life.

As a part of society, an individual successful in governing their personal finances, contributes to the success of society itself. Conversely, if an individual is exposed to a risky choices and bad decisions, it may lead to personal over-indebtedness and have increase the chances of living in poverty. In addition to government efforts, corporations, various associations and individuals are also invited to become more socially responsible. The seriousness of this topic should encourage everyone to synergize and carry out activities for the general progress of society.

2. Segmentation of the population for efficient financial education

Financial education seeks for different approaches. In order to achieve more effectiveness in the transfer of knowledge and skills in personal finance management educators should be more informed on the main features of the targeted population or to know better to whom they are they addressing the specific educational course. This can be obtained by using interdisciplinary approaches including using knowledge from the field of marketing. If we try to imagine that the transfer of knowledge is a process in which the educator is "selling" knowledge and the student is "consuming" we can relate to the correlation between classical provider-consumer relationship and educator-student relationship. Segmentation defined by marketing experts is the division of the total market into smaller, relatively homogeneous groups. (Boone, Kurtz, 1998, 230)

By using a segmentation principle, marketing experts achieve more efficiency in selling products by compelling similar requests of the same segment. (Vranešević, 2001, 189). General division of population segments in need of financial education can be done in two main groups: 1. individuals in need of education for preventive purposes and 2. individuals in need of education for corrective purposes. Individuals belonging to first group can be found in younger age groups and those belonging to the second group are to be found in the older population. But this division is not sufficient, and segmentation should help as to define subdivisions with a tendency to provide us with more homogenous target groups.

2.1. Population in need of preventive financial education

In the National Financial Research Study conducted in 2015, in cooperation with CFSSA, CNB and the Ministry of Finance of the Republic of Croatia, the exposure of the younger age group is clearly visible. The results of the surveyed students showed a low level of financial literacy, and the fact that youth unemployment is 40 percent puts Croatia in second place in Europe. In Europe, the unemployment rate for young people was 19 percent in 2016 (Eureopean Commission, 2017). Even with this downward trend, the youth unemployment rate is still very high. Youth unemployment was particularly influenced by business cycles and the structural problems that prevailed before the crisis. These issues point to the lack of bridges linking the education system and world of work, inefficiencies in the labor market institutions and labor market segmentation. This lost potential leaves significant traces in the economy for those experiencing unemployment, particularly the long-term unemployed. This is so true at the beginning of a career which may have a negative impact and long-term consequences on the future earnings and employment prospects of the individual (European Commission, 2016, 5). The latest study on students' financial literacy in Croatia "Managing Your Own Finance at the Faculty"(Studentski.hr, 2017) was conducted in November 2017 in cooperation with Studentski.hr portal and OTP bank, where the question of financial literacy resulted somewhat less positive in comparison with results obtained by others.

The importance of education stands out in all sectors of human activity and applies to all age groups. There is a need that education is provided for a younger population when it is at the top of its ability to acquire new knowledge. The interest of the students for additional education is confirmed by the positive results of the survey conducted among the students where their willingness to invest in education had been tested (Studentski.hr, 2017).

2.2. Chosen target group

Due to the findings presented in previous chapters and personal interests, the authors took the decision to create a short educational course for young people belonging to a very specific community: "The Franciscan Youth". For educational purposes and in order to create the most effective content we had to find out more about the target group.

The family and the civic community, are directly appropriate to man's nature. In order for as many people as possible to participate in society, it is necessary to promote the foundation of societies and associations of "economic, social, cultural and entertainment, sports, professional and political, who can be national or international" (Pope John XIII, 1961, 60). This "socialization" also expresses the natural aspiration that encourages people to unite in order to achieve goals that go beyond the individual's possibilities. To develop the natural gifts of the person, especially the spirit of initiative and the sense of responsibility that contributes to the protection of the persons' rights (CCC, 1994, 1882).

The aforementioned excerpt from the Catechism of the Catholic Church essentially explains the reason for choosing this target group. The ultimate goal was to transfer specific knowledge from the field of personal finance to enable the target group to acquire important knowledge and skills and spread them in society in order to contribute to the growth of knowledge and skills for those most in need.

3. Example of implemented education project

The education project conducted with the Franciscan Youth was divided into three parts: lecture, workshop and group discussion.

Based on the obtained professional knowledge, the authors created the lecture materials. The project started with initial questionnaire survey for the participants, followed by a lecture. The lecture was accompanied by a presentation that displayed basic guidelines through professional text and video content adapted for the participants for easier understanding of the topic and as an incentive for active participation and expression of critical thinking.

After exposing the students to the theoretical basics, they then partook in a workshop in which a lecturer was available to clear up any misunderstandings. After this practical workshop and discussion which dealt with all the main issues. The project ended with a questionnaire survey that encouraged participants to compare their initial knowledge level with the newly acquired knowledge and information.

At the very beginning of the lecture, a few points from the Catechism of the Catholic Church (CCC) were read. The main focus was put on the true meaning of economic life which is the growth of goods and profit primarily directed to serve the entire human community (CCC, 1994, 2426).

The lecture started by asking the question 'what does money mean to you as an individual?' and this proved to be a great way to interact with the students: The important elements from a personal context and external influences had been emphasized (OG, 2015).

Good financial literacy is often the foundation to having the ability to manage money. An individual's level of financial literacy often increases with formal and informal learning. To reach a clearer understanding of our financial theme we used basic terms such as: finance, income, expense, budget, savings, interest, interest rate, financial goals and risk. With the adoption of these terms we began the personal financial planning, a process that connected savings, indebtedness, consumption, risk management, investment, and enjoyment of interest earned (Buljan Barbača, 2014, 13).

To make the planning process as successful as possible we instructed them to set personal financial goals. Goals that needed to be clearly defined, measurable, achievable, realistic and time-driven (Center for Entrepreneurship Osijek, 2016). They were also instructed to distinguish between their own needs and wishes and artificially created desires. An individual must realize what they really need and be aware when they are being exposed to various marketing hooks. Priorities and financial goals can be easily determined by looking at them from the perspective of the hierarchy of human needs (Buble, 1993, 306). The workshop task was to make a monthly budget that gives a clear picture of income and expense trends. By using an example like this we were able to present the principle of creating and governing the monthly budget.

4. Analyses of obtained results

We were able to gather the following information from the questionnaire on the participants.

The total number of participants was 29, of whom 23 were female and 6 males. Average age of the respondents was 21 ½.

26 were still in the education system and 3 participants had completed their education. 7 participants had or were studying within the technical field, 10 participants had or were studying within the socio-humanist field, 4 participants had or were studying within the biomedicine field and 3 participants had or were studying within the natural science field.

The participants were questioned about the relationship between saving and indebtedness. 21 respondents considered that saving was more effective than loans. 1 participant believed that a loan was more effective than savings. 6 participants believed a combination of savings and loans was the most effective way to go and 1 participant believed that savings are ineffective, and loans were too risky. From the results we can conclude that the majority of participants preferred savings over loans.

The next question asked was "do you think you should change your current attitudes about savings and indebtedness?". 58% of the participants answered that they should change their attitudes and 42% answered that they shouldn't.

Participants were then asked to indicate what source of information they use to inform themselves on financial issues and they answered as follows: Banks – 11 participants, press and other media - 11 participants, relevant ministries - 4 participants, independent sources (neighbors, friends) - 12 participants, the educational institutions they attend - 3 participants, relevant local government offices - 1 participant.

On the basis of self-assessment on level of financial literacy-before workshop results are as follows: only 10% of participants are consider themselves financially literate, 45% know the basic postulate of financial literacy, 14% gave it some thought, 14% heard something about financial literacy and 17% consider themselves to be financially illiterate. The average rating of financial literacy was 3.17.

At the end of the course the participants fulfilled in a final questionnaire with the aim of evaluating how successfully they had adopted the course content. 24 participants answered the questionnaire.

About the relationship between saving and indebtedness, 18 participants considered saving was more effective than loans, none of the participants believed that loans were more effective than savings, 5 participants believed the most effective method was a combination between savings and loans, 1 participant believed that savings were ineffective, and loans were too risky. It was clear from the findings that the participants now had a greater tendency towards savings and recognized that credit was a risky choice.

To the question "do you think you should change your current attitudes about savings and indebtedness?", 63% of respondents answered that they should change their attitudes and 37% answered that they shouldn't. We can see from their answers that 5%, changed their opinion and now recognize the need for more substantial informing about saving and indebtedness.

On the basis of self-assessment on level of financial literacy-after workshop results are as follows: 17% of participants consider themselves financially literate, 50% know the basic postulate of financial literacy, 12½ % had given it some thought, 12½ % had heard something about financial literacy and 8% considered themselves to be financially illiterate. The average rating of financial literacy was 3,54.

By comparing the results of the initial and final surveys we can see that the students are interested in acquiring new knowledge about finances. The average grade of financial literacy at the end of the workshop had increased from 3,17 to 3,54, or in percentage, 12%. From the results we concluded that the worksop resulted in the acquisition and adopting of new knowledge among the participants and induced some changes in their attitudes toward personal finance management.

5. Conclusions and recommendations

Knowledge transfer in this specific field of study depends on specific pre-knowledge, experience and attitudes of target group. Very important step in defining the content for successful financial education is to define target group.
Development of various programs and activities for financial education, taking in consideration specific features of target groups are necessary to build financially successful generations. Most important is to include young people in educational process, because investing in young people is investment in the future. By applying the acquired knowledge and skills as responsible citizens, they are going to make the right financial decisions on a personal, family or community level and ultimately create financially balanced society.

REFERENCES

Boone, L. E., Kurtz, D., L. (1998): Contemporary marketing wired, 9th Edition, The Dryden Press, Dryden

Buble, M. (1993): **Management**, Ekonomski fakultet u Splitu, Split

Buljan Barbača D., (2014.), ***Upravljanje osobnim financijama (Personal finance management)***, Sveučilište u Splitu, Sveučilišni odjel za stručne studije, Split, p.11.

Centar za poduzetništvo Osijek, (2016), ***S.M.A.R.T. ciljevi***, http://www.czposijek.hr/unaprijedite-poslovanje/s-m-a-r-t-ciljevi-331/ (accessed 10. February 2018)

Croatian Banking Association (CBA), ***Radionice za građane u sklopu projekta Upravljanja osobnim financijama (Workshops for Citizens within the Project of Personal Finance Management)***, http://www.hub.hr/hr/radionice-za-gra%C4%91ane-u-sklopu-projekta-upravljanja-osobnim-financijama (accesed 21 February 2018)

Croatian Financial Services Supervisory Agency (CFSSA), ***Predstavljeni rezultati istraživanja 'Mjerenje financijske pismenosti'(Presented Results of the 'Measurement of Financial Literacy')***, http://www.hanfa.hr/vijesti/04022016-predstavljeni-rezultati-istrazivanja-mjerenje-financijske-pismenosti/, (accesed 7 January 2018)

European Commission, (2016), ***Commission Staff Working Document accompanying the Youth Guarantee and Youth Employment Initiative three years on***, http://eur-lex.europa.eu/resource.html?uri=cellar:73591c12-8afc-11e6-b955-01aa75ed71a1.0001.02/DOC_2&format=PDF (accessed 11 February 2018)

Eureopean Commission, (2017), ***Employment, social affeairs & inclusion,*** http://ec.europa.eu/social/main.jsp?catId=1036&langId=en (accessed 11 February 2018)

Ministry Of Finance, ***Financijska pismenost potrošača (Financial literacy of consumers)***, http://www.mfin.hr/hr/financijska-pismenost-potrosaca (accessed 20 February 2018)

OECD, (2005), ***Improving Financial Literacy: Analysis of Issues and Policies***, Pariz: OECD, http://www.oecd-ilibrary.org/finance-and-investment/improving-financial-literacy_9789264012578-en (accessed 20 December 2017)

Official Gazette, 104/2014, ***Odluka o donošenju Programa međupredmetnih i interdisciplinarnih sadržaja Građanskog odgoja i obrazovanja za osnovne i srednje škole (Decision on Adopting the Program of Intercultural and Interdisciplinary Content of Citizenship Education for Primary and Secondary Schools***), https://narodne-novine.nn.hr/clanci/sluzbeni/2014_08_104_2019.html (accessed 7 January 2018)

Official Gazette, 11/2015, ***Zaključak Vlade Republike Hrvatske o prihvaćanju Nacionalnog strateškog okvira financijske pismenosti potrošača za razdoblje od 2015. do 2020. godine (Conclusion of the Government of the Republic of Croatia on the Adoption of the National Strategic Framework for Consumer Literacy for the period 2015.-2020.)***, https://narodne-novine.nn.hr/clanci/sluzbeni/2015_01_11_224.html (accessed 20 December 2017)

Pope John XXIII, (1961), ***Mater et magistra – Encyclical on Christianity and Social Progress*** , Vatican, http://w2.vatican.va/content/john-xxiii/en/encyclicals/documents/hf_j-xxiii_enc_15051961_mater.html (accessed 20 February 2018)

Pope John Paul II, (1994), ***Katekizam Katoličke Crkve (Catechism of the Catholic Church),*** Hrvatska Biskupska Konferencija, Zagreb

Studentski.hr, (2017), ***Rezultati istraživanja o financijskim navikama na fakultetu (Results of research on financial habits at the faculty)***, http://studentski.hr/studenti/financije/skromni-hrvatski-studenti-zele-se-educirati-i-putovati (accessed 9 February 2018)

Štedopis-Institute for Financial Education, ***Što je štedopis (What Štedopis is),*** http://www.stedopis.hr/sto-je-stedopis/ (accessed 10 January 2018)

Vranešević, T. (2001): ***Segmentation, positioning and prediction***, in Previšić,J. and Bratko, S., ed.: Marketing, Sinergija-nakladništvo, Zagreb, pp. 189-216

World Bank, (2010), ***Hrvatska - Dijagnostički pregled zaštite potrošača i financijske pismenosti, Svezak I. (Croatia-Diagnostic Review of Consumer Protection and Financial Literacy, Vol.I.)***, Svjetska banka, Sektor za razvoj privatnog i financijskog sektora, Područje Europe i Središnje Azije,Washington, DC, http://docplayer.net/37214384-Hrvatska-dijagnosticki-pregled-zastite-potrosaca-i-financijske-pismenosti-svezak-i-glavni-nalazi-i-preporuke-veljaca-2010.html (accesed 24 January 2018)

Paško Burnać, PhD
University of Split, Faculty of Economics / Department of finance
Postal Address: Cvite Fiskovića 5, 21000 Split, Croatia
Phone: 00 385 91 44 30 759 Fax: 021 430 701
E-mail address: pburnac@efst.hr

Mario Pečarić, PhD
University of Split, Faculty of Economics / Department of finance
Postal Address: Cvite Fiskovića 5, 21000 Split, Croatia
Phone: 00 385 91 44 30 703 Fax: 021 430 701
E-mail address: mpecaric@efst.hr

FISCAL AND MACROECONOMIC EFFECTS OF AUSTERITY MEASURES IN THE REPUBLIC OF CROATIA

FISKALNI I MAKROEKONOMSKI UČINCI MJERA ŠTEDNJE U REPUBLICI HRVATSKOJ

ABSTRACT

Recent global economic crisis and the concerns about sustainability of public finances have resulted in stronger implementation of austerity measures and fiscal consolidations. Fiscal consolidation or fiscal adjustment is a term which represents the process of harmonization of public revenues and public expenditures by reducing expenditures and / or increasing revenues. The objective of fiscal consolidation is to reduce the budget deficit and to balance the state budget in each fiscal year. Fiscal adjustment is closely related to austerity policy- reducing the expenditure side of the state budget. The theoretical and empirical literature does not offer a consensus on the impact of these measures. Empirical research offers a rationale for both contractionary and expansionary effect of austerity measures on economic activity. Studies that examine the macroeconomic and fiscal effects of consolidation in developed countries are not frequent either have a long history, while the same effects in the Republic of Croatia are completely un-investigated. This paper tries to shed some light on this relationship. Additional contribution of this paper relates to the usage of the narrative approach introduced by Romer and Romer (2010). Narrative approach suggests that previous empirical literature has been contaminated by using the indicators for fiscal consolidation which may be subject to serious miss measurements errors leading to a strong bias towards finding an expansionary fiscal consolidation. The research results do not support the expansionary fiscal consolidation hypothesis. Therefore, study suggests that fiscal consolidation, ie. austerity measures in the Republic of Croatia during recent crises was not successful in achieving proclaimed macroeconomic goals such as economic growth.

Key words*: austerity measures, fiscal consolidation, expansionary consolidation hypothesis, economic growth, Republic of Croatia, narrative approach.*

SAŽETAK

Recentna globalna ekonomska kriza i održivost javnih financija rezultirali su u intenzivnoj implementaciji mjera štednje i fiskalnim konsolidacijama. Fiskalna konsolidacija ili fiskalna prilagodba pojmovi su koji predstavljaju proces harmonizacije javnih prihoda i javnih rashoda putem smanjenja rashoda i/ili povećanja prihoda. Cilj fiskalne konsolidacije jest smanjenje *proračunskog deficita i uravnoteženje proračuna u svakoj fiskalnoj godini. Fiskalna prilagodba blisko je povezana sa tzv. austerity politikom, tj. mjerama štednje – smanjenjem rashodovne strane državnog proračuna. Teorijska i empirijska literature ne nudi jedinstveni stav oko učinaka takvih mjera. Empirijska istraživanja nude dokaze za ekspanzivne ali i kontrakcijske efekte mjera štednje na ekonomsku aktivnost. Studije koje proučavaju makroekonomske i fiskalne učinke konsolidacije u razvijenim zemljama nisu česte niti imaju dugu povijest, dok su isti efekti u Republici Hrvatskoj potpuno neistraženi. U ovom radu pokušat će se doprinijeti rasvjetljavanju navedene veze. Dodatni doprinos rada jest u korištenju tzv. narativnog pristupa kojeg su prvi predstavili Romer i Romer (2010). Narativni prisup uočava da se u prethodnim empirijskim istraživanjima koriste indikatori fiskalne konsolidacije koji mogu sadržavati ozbiljne pogreške u definiranju i mjerenju konsolidacije što može voditi pristranosti u pronalaženju ekspanzivnih učinaka takvih mjera. Rezultati istraživanja ne podupiru hipotezu o ekspanzivnom djelovanju fiskalne konsolidacije. Stoga, studija otkriva da fiskalna konsolidacija, tj. mjere štednje u Republici Hrvatskoj tijekom recentme krize nisu bile uspješne u ostvarivanju proklamiranih fiskalnih i makroekonomskih ciljeva kao što je ekonomski rast.*

***Ključne riječi**: mjere štednje, fiskalna konsolidacija, hipoteza o ekspanzivnoj konsolidaciji, ekonomski rast, Republika Hrvatska, narativni pristup.*

1. Introduction

Fiscal consolidation or fiscal adjustment is a term which represents the process of harmonization of public revenues and public expenditures by reducing expenditures and / or increasing revenues. The objective of fiscal consolidation is to reduce the budget deficit and to balance the state budget in each fiscal year. Fiscal adjustment is closely related to austerity policy- reducing the expenditure side of the state budget. Austerity policy is therefore "a form of voluntary deflation that reduces wages, prices and budget spending in the economy to reduce the deficit and public debt and increase the competitiveness of the economy" (Blyth, 2013, 11). Although fiscal consolidation has been recognized as a hot issue, the literature does not offer a consensus on the impact of consolidation measures. As a consequence of ambiguous results (both contractionary and expansionary), this amounts to quite a big problem for policy makers as they are on one side pushed towards fiscal consolidation while on the other side they lack a clear idea what these measures might be bringing about across the economy.

In this paper, we will investigate the fiscal and macroeconomic impacts of fiscal consolidation in the Republic of Croatia. Additional contribution of this paper relates to the usage of the *narrative approach* introduced by Romer and Romer (2010). Narrative approach suggests that previous empirical literature has been contaminated by using the indicators for fiscal consolidation which may be subject to serious miss measurements errors leading to a strong bias towards finding an expansionary effect of fiscal consolidation. Recognizing this as a serious obstacle the present paper first provides a brief review on the problems in the previous literature and then applies the empirical investigation using the new data on fiscal consolidation in Croatia. We will also try to answer the question: how strong are the evidence on the expansionary fiscal consolidation hypothesis, according to which economic growth is accompanied by a reduction in expenditures and / or increased revenues?

The paper begins with the theoretical framework followed by the criticisms of fiscal consolidation policy. The most important part of the paper is statistical analysis of the effects of consolidation on selected fiscal and macroeconomic variables in the Republic of Croatia. The last part of the paper is a conclusion, with research limitations as well as recommendations for future research.

2. Theoretical framework

Theoretical evidence for the expansionary fiscal consolidation is related to two channels: the wealth channel (the role of expectation) and the channel of trust (the impact on the interest rate).

The approach according to which budget spending cuts increase private consumption is not new in neoclassical growth models. Reducing public expenditures perceived as permanent will cause wealth effects. Due to the decrease in expenditures, market actors expect that future taxes will also be lower, which increases the wealth of the private sector (Alesina and Perotti, 1997, 213). Consequently, fiscal consolidation achieved through a permanent reduction in public spending increases private consumption, under certain conditions.

The first such condition is the level of public debt at the beginning of the consolidation period, compared to the three-year period before consolidation- the higher the public debt growth in the pre-consolidation period, the greater the likelihood of fiscal adjustment. In other words, the cumulative change in public debt over the three-year period before successful consolidation is higher than the change in unsuccessful consolidation.[1] Successful fiscal adjustments are made when the share of public debt in GDP is relatively high, which would mean that the effects of fiscal policy are greater in the situation when there is a significant fiscal imbalance.

Let's assume now that there are rigidities in the labor market rent. In that case, the increase in budget spending has two effects (Alesina and Ardagna, 2012, 21). The first effect is the increase in employment, and thus income and consumption, while the second effect implies a reduction in the private sector's wealth, which is due to the increase in the tax rate that is discounted to the present value. If there is a large share of credit-limited entities on the market, the first effect will prevail. If the current tax value and the debt level are high, another effect will prevail. This model provides an explanation for the positive correlation between public spending shocks and changes in private spending in situations where debt levels are not high and negative correlation when the problem of excessive public debt is present.

Like budget spending, tax increases also have two different impacts on private consumption. Increase in taxes reduces disposable income, and therefore the consumption of credit-limited entities. However, if public expenditures are unchanged, the current tax increase implies lowering taxation in the future. If the initially expected tax movement can be described as growing, it will affect the reduction of tax distortion. When the level of public debt is high and if initial tax distortions are present, the benefits of tax deduction are significant and the second effect prevails. At low levels of debt, the first effect will prevail (Alesina and Ardagna, 2012, 22). Therefore, in so called normal circumstances there is a negative correlation between taxation and changes in private consumption, while in a situation where there is a significant fiscal imbalance the correlation is positive.

The second channel of fiscal consolidation concerns the risk premium. Heavily indebted countries pay a risk premium when borrowing money abroad. Therefore, a change in fiscal policy can have significant effects on the interest rate given the possibility of reducing the risks and hence the premium. Risk premium activity can be explained by the existence of so-called multiple equilibrium (Guajardo et al., 2011, 7). A certain balance can be characterized by a high budget deficit which, through high interest rates on public debt, makes it difficult to achieve fiscal sustainability. In this

[1] Fiscal consolidation is successful if a) in the three-year period after consolidation, the cyclically-adjusted primary deficit decreased by min on average. 2% below its value in the year of consolidation; or b) if three years after consolidation the ratio of public debt to GDP min. 5% lower than the ratio in the year of consolidation (Alesine and Ardagna, 1998, Mirdala, 2013).

case, the high risk premium is justified. In the second case, lower risk premium allows a lower interest rate and easier budget balance. Therefore, the reduction of the budget deficit can contribute to the change of the state of the economy from a suboptimal balance with a high risk premium to an optimal balance with low risk and interest rate. So the channel of trust can stimulate all those components of aggregate demand that are sensitive to interest rate changes, especially investments.

And in this case, the initial level of public debt is important issue. Research indicate (Alesina, 2010, 9) that the risk premium is a non-linear public debt function, which means that it does not exist at moderate levels, but occurs at a higher debt and GDP ratio. In addition, reducing the risk premium reduces the budget deficit more when the initial debt level is higher.

3. Critique of expansionary fiscal consolidation hypothesis and austerity measures

The theoretical basis for critique the previously described approach and application of Keynesian policy in the period of crisis can be found in Gali et al. (2007), which explore the effects of fiscal policy in the situation of the existence of credit and financial constraints when the credit market does not function efficiently. Authors develop a *sticky price model* in which a certain proportion of households always spend their current income. Such *non-ricardian* consumers exist along with those *ricardian*- the higher the share of non-ricardian consumers in the total population, the greater the impact of fiscal policy on production and employment. Such consumers are most often credit-limited and have no access to financial markets. In a situation where the number of such consumers is significant, government spending multipliers are higher than usual. (Tagkalakis, 2008, 1505).

Expansionary fiscal consolidation hypothesis and austerity measures did not answer two important issues: 1. which class of citizens submits the greatest burden of saving? and 2. what happens if all economic entities decide to deleverage at the same time? The first problem of austerity policy is the inconsistency of the distribution effect caused by such measures. Citizens that fall into the lower or middle income class are more likely to use public services, both direct (education, health, public transport), as well as indirect (tax relief, subsidies). A higher income class with the option of private alternative is less dependent on public service, however, budget spending cuts will be felt through poorer infrastructure. Accordingly, economic entities belonging to lower income classes are more affected by austerity policies than higher classes. The second problem of austerity measures is their time inconsistency. If we accept that in the over-debt country it is sensible to implement the austerity policy and reduce public debt, what is valid for a particular country is not valid for a group of countries (*fallacy of composition*). If other countries (trade partners) also use austerity measures, recovery will be difficult, as the sources of economic growth are lost.

It should also be consider how the expansionary fiscal consolidation hypothesis is more often an exception, rather than a rule. In contemporary economic theory, there are several cases in which austerity measures have resulted in an increase in the rate of growth, ie. economic recovery. Empirical studies most often mention three examples of successful fiscal consolidation: Finland 1992-98, Sweden 1993-98 and Ireland 2008-12 (Perotti, 2011). The success of such a policy is based on several different mechanisms. Given the fall in the nominal interest rate in all cases, the channel of trust is evident. Furthemore, it is necessary to consider the income policy in response to the *internal devaluation* for the purpose of adjusting unit production costs. Wage adjustments were used in response to reduced income from income tax or social contributions paid by companies. Such an approach is not a result of the functioning of the market mechanism, but results from the agreement of the social partners in order to improve the competitiveness. In the cases of Finland and Sweden, the fall in domestic aggregate demand was compensated for the increase in exports due to devaluation (depreciation) of the exchange rate. Such a mechanism can be used in small economies with competitive products on the foreign market.

The above mechanisms are difficult to apply to Croatia and other post-transition countries for several reasons (Kabashi, 2017, 66). Nominal and real interest rates for the past years are at historical minimum. With the decentralization of industrial relations and the trend of deregulation that is present today, it is difficult to expect agreement between social partners when it comes to wage adjustments. Therefore, the only way to achieve such an adjustment is to increase unemployment or reduce employment. Furthermore, the Republic of Croatia as well as most post-transition countries use a (de facto) fixed foreign exchange rate as a nominal anchor or have accepted the euro. In this case there is no possibility of devaluation of the exchange rate to improve competitiveness. The only way to increase competitiveness is the internal devaluation that is carried out by lowering labor costs.

4. Data and methodology

Earlier presented papers identify periods of fiscal consolidation on the basis of changes in the cyclically adjusted primary balance. As mentioned in Introduction this may be problematic and one of the contributions of the present paper is that we focus on episodes of fiscal consolidations identified through the narrative approach introduced by Romer and Romer (2010). The literature review presented in the previous section suggests a lack of consensus on the impact of fiscal consolidation on economic activity. In this context, one natural suspect comes to mind as to why this is so. How do you identify and measure fiscal consolidation? This becomes a crucial question in empirical investigation of fiscal consolidation and its effects. A usual approach in the literature (Alesina, 2010) to identify fiscal consolidation has been to use the budget outcomes (primary balance) in the form of the cyclically adjusted primary balance. The cyclical adjustment is needed because tax revenue and government spending move automatically with the business cycle. Unfortunately, it may be shown that previous empirical literature has been contaminated by using these indicators for fiscal consolidation which may be subject to serious miss measurements errors leading to a strong bias towards finding an expansionary effect of fiscal consolidation. Romer and Romer (2010, 764) argue that cyclical adjustment does not fix the problem as cyclical adjustment suffers from measurements errors. More specifically, it fails to remove swings in government tax revenue associated with asset price or commodity price movements from the fiscal data, resulting in the changes in cyclically adjusted primary balances that are not necessarily linked to actual policy changes. An additional problem is that this ignores the motivation behind fiscal measures. The recent *narrative approach* seems to provide a solution to the problems identified above.

Following Devries et al. (2011), in this paper we look directly at policy actions, and examine the accounts and records of what the countries actually did. We obtained the new database which successfully removes most of the problems in providing the representative indicators for fiscal consolidation. This database includes data on fiscal consolidations for Croatia covering the period 1995 – 2016.

In this study we will focus in particular on the macroeconomic consequences of fiscal consolidation. Therefore, macroeconomic and fiscal variables are statistically analyzed before, during and after fiscal consolidation. Individual components of expenditures (transfers, wages, non wage spending and investments) will be considered depending on whether fiscal consolidation is accompanied by a period of expansion or contraction.[2]

[2] Fiscal consolidation is expansionary if the average GDP growth rate in the consolidation period and two years after that period is higher than the average growth rate at the beginning of the consolidation period (Alesina and Ardagna, 1998., Mirdala, 2013.).

5. Results and discussion

In the Republic of Croatia, five fiscal consolidations were recorded in the observed period, three of which are related to the crisis from 2009 to 2014, so we will focus on that period. Fiscal adjustments primarily took place on the expenditure side, while minor adjustments were recorded on the revenue side (table 1). On the expenditure side, wages and other current expenditures have been reduced equally, while a slight decrease is recorded in non-wage expenditures. Public sector employment, which grew rapidly till 2008, was stopped in 2009. Indexation of pensions was temporarily suspended, and different wage supplements were decreased or cancelled. Social benefits increased by 0.7 pp, while capital expenditures decreased by 1.1 pp. On the revenue side, due to declining employment and rising unemployment, revenues from direct taxes and social contributions have fallen, which revenue growth on the basis of indirect taxes has not been able to offset. In 2009, a special tax was introduced on wages, pensions and other receipts at a rate of 2 and 4% respectively. As a result of these measures, cyclically adjusted primary balance decreased by 2 pp. However, fiscal consolidation in this period failed to stop the growth of public debt, as its share in GDP grew by 25.2 pp.

***Table 1** Fiscal consolidation in Croatia – size and structure*

	before (2006-08)	during (2009-12)	after (2013-16)	difference	difference
	(1)	(2)	(3)	(2-1)	(3-1)
Public debt	38,5	63,7	81,4	25,2	42,9
Primary deficit	5,4	3,4	4,1	-2	-1,3
Total expenditures	47,2	44,6	46,5	-2,6	-0,7
Current expenditures	43,5	42	42,3	-1,5	-1,2
Wages	13,1	12,3	12,4	-0,8	-0,7
Social benefits	15,2	15,9	16,1	0,7	0,9
Non- wage consupmtion	8,4	7,8	7,9	-0,6	-0,5
Other current expenditures	6,8	6,0	5,9	-0,8	-0,9
Capital expenditures	3,7	2,6	4,2	-1,1	0,5
Total revenue	41,8	41,2	42,4	-0,6	0,6
Direct taxes	7,1	6	6,2	-1,1	-0,9
Indirect taxes	16,9	18,1	19,1	1,2	2,2
Social contributions	11,9	10,7	11,1	-1,2	-0,8
Other revenues	5,9	6,4	6	0,5	0,1

Note: Variables are given as annual averages and shares in GDP. Public expenditures, public revenues and primary deficit are cyclically adjusted.

Source: Eurostat, Croatian Ministry of finance, author calculation

A full picture of fiscal consolidation is obtained by observing the macroeconomic effects (table 2). Positive effects include a reduction in the current account deficit and a reduction in unit labor costs. In the above-mentioned empirical research, one of the main channels through which fiscal consolidation affects macroeconomic outcomes is the devaluation / depreciation of the exchange rate. Due to the (de facto) fixed exchange rate policy, the significant devaluation effect in Croatia was absent. The generators of growth in the pre-crisis period (personal consumption and investments) decreased, causing a GDP drop of 6.4 pp. It should be noted that the described macroeconomic effects are not only the result of fiscal policy in the Republic of Croatia, but also the result of economic developments abroad. Namely, an econometric estimate of the effects of fiscal consolidation was not taken in this research, which would take into account other factors (control variables) that affect the observed fiscal and macroeconomic variables.

Table 2 *Fiscal consolidation in Croatia – macroeconomic effects*

	before (2006-08)	during (2009-12)	after (2013-16)	Difference	Difference
	(1)	(2)	(3)	(2-1)	(3-1)
GDP growth rate	4,3	-2,1	-0,4	-6,4	-4,7
Unemployment rate	10,9	14,9	17,8	4	6,9
Employment rate	45,9	44,5	42	-1,4	-3,9
Investment	7,2	-2,1	-0,1	-9,3	-7,3
Personal consumption	3,1	-1,2	0,3	-4,3	-2,8
Unit labor costs	3,1	-0,6	0,2	-3,7	-2,9
Exchange rate	0,3	-2,1	-0,3	-2,4	-0,6
Current account of the BOP (%GDP)	-6,3	-2,4	0,7	3,9	7
Inflation	3,4	2,1	-0,2	-1,3	-3,6

Note: Unit labor costs, exchange rate, investments and personal consumption are given as annual growth rates. The unemployment rate, employment rate and the current account of the balance of payments are annual averages.

Source: Eurostat, Croatian Bureau of Statistics, Croatian National Bank, author calculation

There are several possible reasons for the partial success of fiscal consolidation in the Republic of Croatia. The first possible reason is the diagnosis that the main cause of the economic crisis is excessive public spending. Namely, international comparisons and comparisons with other EU countries about the size of public spending are not in favor of such claims. Another possible reason is the unfounded theoretical framework of the expansionary fiscal consolidation hypothesis which neglect negative short-term effects on aggregate effective demand while simultaneously overestimate the effects of lower interest rates, competitiveness and positive effects on the current account of the balance of payments.

6. Conclusion

This paper investigated the macroeconomic effects of fiscal consolidation. While the topic of the effects of fiscal consolidation has been extensively explored in developed countries, the focus on its effects in post-transition countries has been rare in previous literature. The paper thus contributes to the theoretical and empirical literature by investigating this important issue on the sample of Republic of Croatia covering the period 1995 – 2016. After explaining as to why the previous empirical literature has been contaminated by using inappropriate fiscal consolidation indicators, we conduct our empirical investigation using the *narrative approach* (Devries et al., 2011).

The research shows that, apart from minor corrections to current account balances and lower labor costs, fiscal consolidation in the Republic of Croatia did not achieve declared goals such as economic growth. The assumptions on the *expansionary fiscal consolidation hypothesis* neglect negative short-term effects on aggregate effective demand while simultaneously overestimate the effects of lower interest rates, competitiveness and positive effects on the current account of the balance of payments.

The results of the analysis have to be observed with caution. Namely, an econometric estimate of the effects of fiscal consolidation was not taken in this research, which would take into account other factors (control variables) that affect the observed fiscal and macroeconomic variables. One of the important factors is the role of political actors and events such as regular and / or early parliamentary elections. However, such an analysis goes far beyond the scope of this paper. A panel analysis that takes into account all these factors is a proposal for future research. So, this research is just a step in the right direction, but it is by no means sufficient to provide hard and reliable conclusions on the different effects of fiscal consolidation in the Republic of Croatia.

REFERENCES

Alesina, A. (2010). ***Fiscal Adjustments- Lessons from recent history***, Prepared for the Ecofin meeting in Madrid, April 15, 2010.

Alesina, A., & Ardagna, S. (2012). ***The Design of Fiscal Adjustments***, NBER Working Paper, No. 18423, Washington, DC: National Bureau of Economic Research, 19-67

Alesina A., & Ardagna, S. (1998). ***Tales of Fiscal Adjustment***, *Economic Policy* 13 (27), 489-585.

Alesina, A., & Perotti, R. (1997). ***Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects***, IMF Staff Papers, No. 44, June, 210-248.

Blyth, M. (2013). ***Austerity- The History of Dangerous Idea***, Oxford University Press, Oxford, SAD

Devries, P., Guajardo, J., Leigh, D., & Pescatori, A. (2011). ***A New Action-based Dataset of Fiscal Consolidation***, IMF Working Paper No. 11/128, International Monetary Fund

Gali, J., Lopez Salido, D., & Valles, J. (2007). ***Understanding the Effects of Government Spending on Consumption***, *Journal of the European Economic Association*, Vol. 5, No. 1, 227-270.

Guajardo, J., Leigh, D., & Pescatori, A. (2011).***Expensionary Austerity- New International Evidence***, IMF Working Paper, WP/11/158

Kabashi, R. (2017): ***Macroeconomic effects of fiscal policy in the European Union with particular reference to transition countries***, *Public Sector Economics,* Vol. 41 (1), 39-69.

Mirdala, R. (2013). ***Lessons learned from Tax vs. Expenditures Based Fiscal Consolidation in the European Transition Economies***, William Davidson Institute, Working Paper, No. 1058

Perotti, R. (2011). ***The Austerity Myth: Gain Without Pain***, Chapter in NBER book- HH (2013), editors: Alberto Alesina and Francesco Giavazzi, 307- 354.

Romer, C., & Romer, D.H., (2010). ***The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks***, *American Economic Review*, 100(3), 763-801.

Tagkalakis, A. (2008). ***The Effects of Fiscal Policy on Consumption in Recessions and Expansions***, *Journal of Public Economics*, Vol. 92, No. 5-6, 1486-1508.

Assistant professor Vesna Buterin, Ph.D.
University of Rijeka, Faculty of Economics
I. Filipovića 4, Rijeka, Croatia
Phone: 051 355 122
E-mail address: vesna.buterin@efri.hr

Denis Buterin, M.Sc., senior lecturer
Polytechnic of Rijeka
Vukovarska 58, Rijeka, Croatia
Phone: 051 353 728
E-mail address: denis.buterin@veleri.hr

Ester Lukežić, spec.oecc.
Polytechnic of Rijeka
Vukovarska 58, Rijeka, Croatia
Phone: 091 794 4723
E-mail address: ester.lukezic@gmail.com

SHOULD CROATIA DEVELOP ITS MORTGAGE MARKET?[1]

TREBA LI HRVATSKA RAZVIJATI HIPOTEKARNO TRŽIŠTE?

ABSTRACT

Securitization of financial assets, as a relatively new financial product, is the process of transforming illiquid financial assets such as mortgages into securities traded on the capital market. Securitization has experienced a real boom in its application in the first decade of this century. Long-term credit mortgages with poor quality are grouped into bundles and converted into securities that are sold in the financial market. This creates a secondary mortgage market. The developed, regulated and standardized primary mortgage market is prerequisite for the development of the secondary mortgage market and securitization. Stimulating the approval of mortgage lending or risky products to less solvent parties is now considered to be the most important cause of speculation and inflow of the real estate market and consequently the emergence of the first global financial crisis of the 21st century. Because of the negative effects of globalization, the crisis has spread rapidly from the USA to the rest of the world and has produced negative effects, primarily in financial markets and then indirectly in other sectors of national economies. As far as Croatia is concerned, it can be said that the bank lending was the main instrument of financing in the Croatian market. Secondary financial markets have not really taken root in Croatia, and consequently nor securitization process. Also, in Croatia, the mortgage market is a relatively small market with a very small share of issued mortgage loans from total loans to households. Therefore, this paper examines the justification for encouraging the development of the mortgage market in Croatia. Taking into account the emergence of securitization as a result of the existence of a mortgage market as well as the explicit dominance of bank loans in the Croatian financial market, the authors find that there is no economic justification for that in a medium term. Instead, it is necessary to develop further the infrastructure and legislative framework in order to achieve greater investor safety. That would indirectly lead to achievement of greater liquidity and efficiency of the entire Croatian financial market.

[1] „*This paper has been supported by University of Rijeka under the project number* ***ZP UNIRI 3/17 (Development and Perspectives of Institutional Investors in the Republic of Croatia)”***

Key words: *mortgage market, mortgage loan, securitization, Croatia.*

SAŽETAK

Sekuritizacija financijske imovine, kao relativno novi financijski proizvod, je proces transformiranja nelikvidnih financijskih sredstava poput hipoteke u vrijednosnice kojima se može trgovati na tržištu kapitala. Sekuritizacija je u prvom desetljeću ovog stoljeća doživjela pravi boom u primjeni. Dugoročni hipotekarni krediti lošije kvalitete se grupiraju u pakete i pretvaraju se u vrijednosnice koje se dalje prodaju na financijskom tržištu. Tako nastaje sekundarno hipotekarno tržište. Razvijeno, uređeno i standardizirano primarno hipotekarno tržište preduvjet je razvoju sekundarnog hipotekarnog tržišta i sekuritizaciji. Stimuliranje odobravanja hipotekarnih kredita, odnosno rizičnijih proizvoda manje solventnim strankama danas se smatra najvažnijim uzrokom pojave špekulacija i napuhavanja tržišnog mjehura nekretnina a posljedično i nastanka prve globalne financijske krize 21. stoljeća. Zbog negativnih učinaka globalizacije kriza se iz SAD-a brzo proširila na ostatak svijeta i proizvela negativne učinke, prvenstveno na financijskim tržištima a onda neizravno i u ostalim sektorima nacionalnih gospodarstava. Što se tiče Hrvatske, može se reći da je na hrvatskome tržištu kao glavni instrument financiranja najznačajnije bilo kreditiranje banaka. Sekundarno financijsko tržište nije niti zaživjelo, a posljedično tome niti proces sekuritizacije. Također, u Hrvatskoj je hipotekarno tržište relativno malo tržište s vrlo malim udjelom izdanih hipotekarnih kredita od ukupno plasiranih kredita stanovništvu. Stoga se u ovom radu istražuje opravdanost poticanja razvoja hipotekarnog tržišta u Hrvatskoj. Uzimajući u obzir pojavu sekuritizacije kao posljedice postojanja hipotekarnog tržišta kao i izrazitu dominaciju bankarskih kredita na hrvatskom financijskom tržištu, autori nalaze da za tako nešto u srednjem roku nema ekonomske opravdanosti. Umjesto toga, nužno je dalje razvijanje infrastrukturnog i zakonodavnog okvira kojim bi se postigla veća sigurnost ulagača, a koji bi neizravno bio u funkciji postizanja veće likvidnosti i efikasnosti cijelog hrvatskog financijskog tržišta.

Ključne riječi: *hipotekarno tržište, hipotekarni kredit, sekuritizacija, Hrvatska.*

1. Introduction

Primary mortgage market is considered to be based on the demand for mortgage loans of residents and economic operators, and this demand spurred the construction sector to intensify its activity. Securitization is the sale of financial assets, most often mortgage loans, through the issuance of long-term securities. Securitization of second-rate mortgage loans is characterized by redirecting risks from the original bank to mortgage secured bonds that combine high and low risk placements.
In this paper the authors analyze the need to develop a secondary market in Croatia. Taking into account the global consequences of securitization, but also the characteristics of the Croatian financial market dominated by banks, the authors find that there is no economic justification for market segmentation in the short and medium term.

2. The Mortgage Market in the United States

The mortgage market is a part of the capital market, usually divided into two types - primary market and secondary market. A developed, regulated and standardized primary mortgage market is a precondition for the development of secondary mortgage markets and securitization (Lea, 2000., 3.).

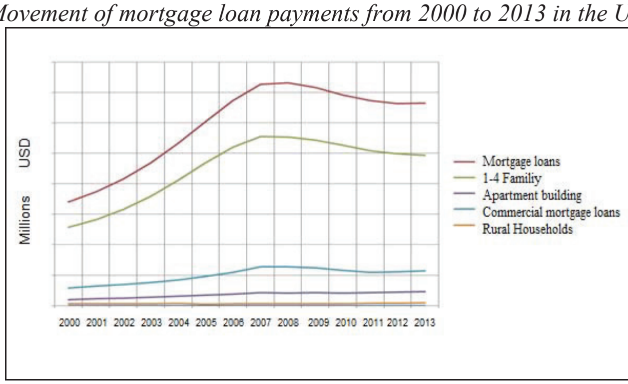
The primary mortgage market is based on residential demand for housing loans, on business organization's demands for commercial mortgage loans for the construction of shopping centers, hotels, business facilities, etc. This demand spurred the construction sector to build-out these properties. (Georgia Real Estate Commission, 2014). The entire system is directly related to and dependent on the economic state of a country, its industrial production via employment and the income of the population.

In the early 1990's globalization, Neoliberal Capitalism and laissez-faire policy had spread throughout the world (Mesaric, 2002., 1154.). The period of economic growth and the strengthening of new industrial countries in the world, especially China which turned to the market economy at that time, was underway. Loan expansion began, followed by lowered lending standards.

Mortgage lending was a strategic economic and political issue. The "American Dream" rests on the principle that all US residents are the owners of their homes or have the right to become one. Due to a decreasing demand for loans, the Federal Reserve District[2](FED) of the United States decided to reduce interest rates on those loans.Such interest rate policies have been catastrophic in the long term as they enabled companies, investment funds and individuals to lend even larger amounts. At the same time, the government began to encourage both of the housing and credit institutions Freddie Mac and Fannie Mae, as well as other actors in the field of real estate, to approve riskier products, so-called subprime loans at a more favorable rate to less solvent parties. Because of this, the indebted household could become even more indebted and thereby spend even more. Banks reduced the applied standards in lending to households and a sharp rise occurred in mortgage lending especially in the housing sector. (Keys, Mukherjee, Seru, Vig, 2010: 341). The consequences of this are also evidenced by the fact that in the period from 2002 to 2005 the incomes and growth of mortgage loans were negatively correlated (Mian, Sufi, 2009: 1478).

Graph 1. shows the trend of mortgage loan payments in the period from 2000 to 2013. The data shows that the loans of households are dominant. They make up about 75% of the total contracted mortgage loan payments on average.

***Graph 1** Movement of mortgage loan payments from 2000 to 2013 in the United States*



Source: As indicated by the Federal Reserve, 2013

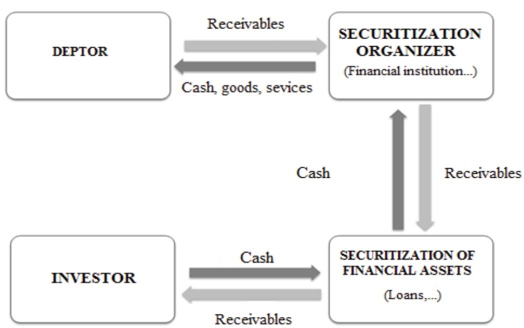
It was believed that such lending to the population would support economic growth as a whole, as it stimulates housing construction and also frees income so that it can be spent on other goods and products. This type of mortgage economy corresponded with the government, banks, industries, and even employees themselves (Attali, 2009., 45.).

[2]The Federal Reserve District is a private institution authorized to regulate and control the financial and monetary institutions and markets in the United States.

3. Securitization and the Secondary Market

Securitization is the process of transforming illiquid financial assets (e.g., home mortgages, car loans and credit card claims) that represent the basic income of banking institutions in securities traded on the capital market (Prohaska et al., 2012., 205.). Securitization is, in essence, a model for the sale of financial assets, most often loans, through the issue of long-term debt securities. There are two basic models of long-term financing through the capital market which operate on the principle of securitization of long-term loans. These are the models of financing long-term loans by issuing mortgage bonds (abbreviated MB), and by issuing mortgage backed securities (abbreviated MBS)[3] (Tepuš, 2007., 467.).The securitization process begins when creditors approve long-term loans to debtors whose liabilities are recorded in a loan registry based on a pledge of (housing) real estate in the mortgage registry. Debtors repay long-term loans under contracted terms and creditors sell long-term loans to their own legal entity, the Special Purpose Vehicle[4] (abbreviated SPV). An SPV forms a mortgage pool or a set of mortgage loans, also referred to as a credit set or a combined mortgage, which forms the basis for issuing long-term securities insured by mortgages. After due diligence[5] has been carried out and the issuing estimationis published, the SPV issues securities that are secured by mortgages which are then purchased by the investors. Graph 2. shows the process of assets securitization in its basic form.

***Graph 2** Assets Securitization Process*



Source: As indicated by Ercegovac, 2003., 104.

The risk for securitization of second-rate mortgages is redirected from the original bank to mortgage secured bonds that combine high risk mortgages with profitable mortgages. Securities that are secured by assets were absorbed by hedge funds, banks and many other financial institutions, thus gaining unexpected profits (Fligstein, Goldstein, 2012: 47). Profit opportunity has overshadowed the reality when it comes to risk assessment in a significant number of funds (Kacperczyk, Schnabl, 2013: 1090).Moving risks from banks to the financial market did not reduce the systematic risk but it increased the risk of institutional dissolutions. The exposure of the non-banking financial sector in the end placed the pressure on the banking system.

The secondary market is a market for buying and selling already issued securities that have been sold to investors on the primary market. It is also called the transaction market because no new

[3]The system in which financial assets are sold (securitizated) for the purpose of issuing long-term securities is characteristic in the Anglo-Saxon system. While in Europe a more common model is one in which financial assets are not sold but are committed for the needs of issuing long-term securities (Tepuš, 2007., 467.).
[4] Special Purpose Vehicle is a legal person who is established for a particular, limited purpose by another person; the founder. In the securitization process, it is a specialized institution for issuing securities of secured mortgages. SPV is an agent for issuing securities based on a mortgage pool groups (Tepuš, 2007., 479.).
[5] Due diligence is the process of analyzing a business subject before, during and after a business transaction. This is part of the business transaction process and serves to discover all relevant information for performing a transaction, in order to avoid unpleasant post-transaction surprises (Cvijanović, 2003., 511.)

money is collected init. Only the owners of the securities are changed, i.e., the securities are resold.Participants in the secondary market are mortgage banks, various government and government sponsored companies, insurance companies, investment funds, pension funds and other investors.

In order to offset the most risky claims from their balance sheet, banks separated their most risky claims, especially subprime mortgages. By the degree of risk they are grouped into a mortgage pool, or packages: Residential mortgage-backed securities[6] (which are secured by mortgages and housing loans, the most risky tranche of equity, often called "loss money," a medium risk mezzanine tranche, a senior tranche, and even a super senior AAA rated tranche. After the initial success of securitization, other types of debt securities emerged in the market, such as ABS securities[7], then CDO securities[8] and CMO securities[9]. It should be mentioned that each set of mortgage loans enclosed in the securities was delivered for risk analysis to the credit rating agencies before it was sold on the market. The highest rating is AAA and indicates a safe instrument. AAA is the highest-class bond of first degree as ranked by Standard & Poor's.

Many of these very complicated special purpose packages were rated as AAA by rating agencies. It is difficult to assess whether the origins of these packages were unclear to the rating agencies that were supposed to be independent and objective in their analysis and evaluation. Or, they lost their objectivity due to a close interest connection with the financial institutions who supported their operations. Either way, , the fact remains that the revenues of three of the world's leading agencies, Standard & Poor's (S & P)[10], Moody's[11], and Fitch Group[12] doubled from three to six billion dollars in the period from 2002 to 2007 (Attali, 2009., 54.).

These varied high rated securities that promised high profits were sold by large investment banks to financial institutions worldwide who also desired to make profits from the new product on the financial market and to also create their own financial products of that type. It is quite certain that a portion of the investors at the end of this chain did not have relevant information on the investment risk involved and this was one of the underlying causes of the mortgage crisis.

4. Causes, Course and Scale of the Crisis

Various speculations with banking products and new financial instruments on the financial capital market are often included in the most important causes of the first global financial crisis of the 21st century. The biggest stimulus to such speculative behavior was buying securities on a loan or on margin.[13]In the first quarter of 2005 housing construction declined in the United

[6] RMBS (residential mortgage backed securities) is a security linked to a set of mortgage housing types subprime, Alt or prime

[7] ABS (asset backed securities) is a security covered by property

[8] CDO (collateralized debt obligations) are debt securities based on a securities of a few assets, usually ABS, shares and bonds

[9] Collateralized Mortgage Obligations (CMOs) is a type of complex debt security that repackages and directs the payments of principal and interest from a collateral pool to different types and maturities of securities, thereby meeting investor needs

[10]Credit Rating Agency, which measures political risk, economic structure, anticipates economic growth, measures fiscal adjustment, general government debt, offshore and potential liabilities, monetary adaptability, external liquidity and external debt burdens (Bach, 2014., 13.)

[11]Credit Rating Agency measuring the economic, institutional and financial strength of the government, and sensitivity to the risk of events (Bach, 2014, 13.)

[12]Credit Rating Agency for Macroeconomic Policies, Impact, Structural Features of Economy, Public Finance, External Finance (Bach, 2014, 13.)

[13]The margin of exchange is the percentage of the share that a buyer has to pay in cash when buying a security. If the margin is, for example, 25%, then the purchase of a $100 security is for with $25 from the buyer, and the remaining $75 is received through a broker'sloan. To secure a loan, the buyer pays a 100-dollar deposit to a

States. In the third quarter, sales slowed down and in the fourth, real estatevalues began to fall. More and more mortgage borrowers entered a situation where the remaining amount owed to the bank significantly exceeded the saleable value of the property. At the beginning of 2006, the number of unsettled subprime loan payments grew, and by the same fall the first institution that commercialized them had collapsed. Still such loans continued to be initiated. (Felton, Reinhart, 2008., 235.).

In October 2007, the largest Swiss bank UBS and Citigroup and the US multinational investment bank headquartered in Manhattan, announced a large depreciation of assets related to subprime loans. To bridge the crisis, other US and European banks did the same. It became clear that bank liquidity was compromised, and the process has just begun.Following the bankruptcy Lehman Brothers on September 15, 2008, the international financial market was hit by a credit crunch and the complete freezing of the financial market. By the end of September banks were trying to preserve liquidity but they were not ready for the new shocks. The breakdown of the banks was accelerated by hedge funds selling their securities, speculating on their downfall and causing a great deal of banker damage (Attali, 2009., 77.).

Meanwhile, the crisis had affected the financial systems of Europe, Japan and most of the countries of the world and generally had all the features of a global crisis. The reigning panic caused a complete collapse of short-term interbank lending markets and the global financial system was collapsing. Exit could only be sought through state intervention and the rescue costs of the banks were high. Almost all developed countries provided state guarantees for savings and interbank lending, recapitalized banks with public funds, took risky placements, granted fiscal relief, influenced interest rates and took a number of other measures. Initial unilateral measures in the national financial sector replaced coordinated global actions and the collapse of the world system was prevented.

However, artificially generated real estate demand enabled by easy-to-access and inexpensive mortgage lending, speculation and an uncontrolled "banking system in the shadows" caused a financial crisis that quickly transformed into economic and eventually a social and political crisis.

5. The Mortgage Loan Market in the Republic of Croatia

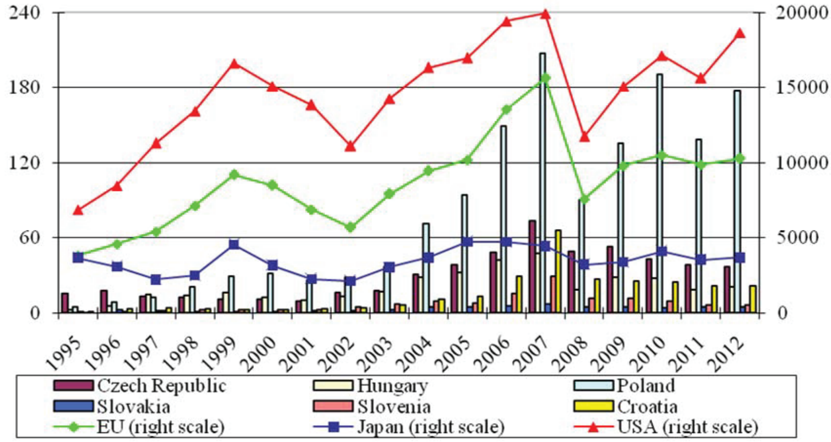
Mortgage loans together with housing loans accounted for 19.3% of total loans issued and they constituted about 50% of total loans issued to households. If it is taken into account that the real estate market in Croatia had no financing sources other than banks; it is noticeable that mortgage loans were little represented. On the other hand, due to the low availability of funds in the pre-crisis times, banks did not have the need to look for alternative ways to raise funds to finance real estate business in Croatia. Banks are the backbone of the Croatian financial market. Trading on the Zagreb Stock Exchange is mainly carried out for capital gains and, to a lesser extent, it is carried out to finance and raise the required capital. It can be said that the Croatiamarketplace is very similar to the marketplaces of other transition countries and it does not have the larger role that developed countries marketplaces have in the international financial marketplace. It is direct repercussion of insufficient institutional development.(Bayraktar, 2014, 92)

Values for transition countries are significantly lower than the developed countries but the gap is even larger if market capitalization indicators are compared in absolute terms as shown in Graph 4.

---

brokerIn this way capital can buy a larger amount of securities than the value of invested capital. (Babić, 2008, 386-387.).

Graph 4 *Market Transactions for Selected Transition and Developed Countries for the Period 1995 - 2012 (in US $ billion).*



Source: author's processing according to Olgić Draženović, Preni, 2014: 59

If market capitalization of transition countries is considered as an indicator of the stock market's ability to acquire capital for the needs of real economy, which for example summed to €80 billion in 2001 and is approximately 2% of the total market capitalization of the old EU Member States; it is clear that the stock market did not finance a real economy. Due to all the aforementioned reasons and because of the lack of a suitable legal framework, the securitization process on the Croatian financial market could not be developed. The Croatian financial market is still young and underdeveloped. It is characterized by low liquidity and a shallow depth hinders efficiencies, creates a lack of high quality infrastructure solutions, promotes inefficient regulations and provides inadequate protections for smaller investors (Olgić Draženović, Preni, 2014: 60).

For the above reasons it is difficult to expect the market success of securitization as a financial derivative, especially given that securitization is considered to be one of the major causes of the Great Recession and all of its ensuing consequences. Instead of developing a secondary market, it is proposed to develop an infrastructure and legislative framework that would enhance investor safety, which would indirectly serve to achieve greater liquidity and efficiencies inthe stock market and the entire financial market. Creating conditions for market segmentation and trading of financial derivatives will have economic justification only after reaching a greater depth to the market, i.e., after confidence levels have been restored.

6. Conclusion

The secondary market is a market for securities transactions already issued on the primary market, and the main participants are mortgage banks, funds and other financial institutions. In the total amount of loans in the Republic of Croatia, mortgage loans are insufficiently present to provide economic justification for creating the conditions for market segmentation and deepening the financial derivatives trade. Due to the long duration of the crisis, the level of investor confidence in any type of financial derivatives has been significantly reduced. Furthermore, the data on liquidity and depth, and especially on market capitalization on the Zagreb Stock Exchange, indicate that the Croatian economy receives no funding in that part of the financial market. Due to all of the above, the success of the mortgage market development in the short and medium term cannot be expected. There is a need to develop a legislative and institutional framework to restore investor confidence and to achieve greater liquidity and efficiency in the stock market and in the entire financial market.

REFERENCES

Attali, J. (2009): ***Kriza, a poslije?***, Meandar media, Zagreb

Babić, M. (2008): ***Financijske spekulacije i ekonomska kriza*****,** Obnovljeni život, Vol.63. No.4 pp. 386-387

Bach, S. (2014): ***Financijska kriza i kreditni rejtinzi država***, Međunarodne studije, Vol.14, No. 3-4, pp. 9-34

Bayraktar, N. (2014) ***Measuring relative development level of stock markets: Capacity and effort of countries*****,** Borsa Istanbul Review, Vol. 14, No. 2, pp. 92-103

Ercegovac, R. (2003): ***Sekuritizacija financijske imovine u kontekstu upravljanja kamatnim rizikom***, Ekonomski pregled, Vol.54 No.1-2, pp. 104-120

Federal Reserve (FED) http://www.federalreserve.gov/econresdata/releases/mortoutstand/mortoutstand20131231.html(accessed 2 February 2018)

Felton, A., Reinhart, C. (2008): ***Financijska kriza 21. stoljeća***, Novum d.o.o., Zagreb

Fligstein, N., Goldstein, A. (2012): ***The Transformation of Mortgage Finance and the Industrial Roots of the Mortgage Meltdown***, Working Paper Series, Institute for Research on Labor and Employment, UC Berkeley

Hrvatska enciklopedija, http://www.enciklopedija.hr/natuknica.aspx?id=55260 (accessed 26 January 2018)

Investopedia, http://www.investopedia.com/terms/c/cmo.asp(accessed 26 January 2018)

Kacperczyk, M, Schnabl, P. (2013): ***How Safe Are Money Market Funds?*****,** The Quarterly Journal of Economics,Vol. 128, No. 3 pp. 1073-1122

Keys, B., J., Mukherjee, T., Seru, A., Vig, V. (2010): ***Did Securitization Lead to Lax Screening? Evidence from Subprime Loans*****,** The Quarterly Journal of Economics,Vol. 125, No. 1, pp. 307-362

Lea, M., J. (2000): ***The Role of the Primary Mortgage Market in the Development of a Successful Secondary Mortgage Market***, Inter-American Development Bank, Washington; http://www.iadb.org/wmsfiles/products/publications/documents/352935.pdf; (accessed 10 January 2018)

Mesarić, M., Nobelovac Joseph Stiglitz (2002): ***Kritika „tržišnog fundamentalizma", globalizacije i politike Međunarodnog monetarnog fonda***, Ekonomski pregled, Vol.53 No.11-12 pp. 1151-1182

Mian, A., Sufi, A. (2009): ***The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis,*** The Quarterly Journal of Economics,Vol. 124, No. 4, pp. 1449-1496

Olgić Draženović B., Preni, V. (2014): ***Razvoj tržišta kapitala u post-tranzicijskim zemljama EU,*** u:Financije nakon krize: forenzika, etika i održivost, ed. Ćurak, M., et al., Ekonomski fakultet Sveučilišta u Splitu, Split

Prohaska, Z., Olgić Draženović, B., Suljić, S.(2012): ***Uloga banaka recesiji hrvatskog gospodarstva***, u: Financijska tržišta i institucije Republike Hrvatske u procesu uključivanja u Europsku uniju, ed. Prohaska, Z., et al., Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 2012.

Real Estate Commission & Appraisers Bord, Primary and Secondary Mortgage Markets (2014): https://www.grec.state.ga.us/infobase/table%20of%20contents%20pdf/Chapter%2045.pdf (accessed 31 January 2018)

Tepuš, M., M. (2007): ***Analiza modela financiranja dugoročnih kredita posredstvom tržišta kapitala u Hrvatskoj***, Ekonomski pregled, Vol.58 No.7-8 pp. 467-479

Lena Duspara, PhD.
Veleučilište u SlavonskomBrodu
Dr. Mile Budaka 1, 35 000 Slavonski Brod, Hrvatska
Telefon: 035-492-805
Fax: 035-492-804
E-mail: lena.duspara@vusb.hr

IMPACT OF INVESTMENT AND PRIVATE CAPITAL AT THE COMPETITIVENESS OF METAL PROCESSING INDUSTRY

UTJECAJ INVESTICIJA I PRIVATNOG KAPITALA NA KONKURENTNOST METALO-PRERAĐIVAČKE INDUSTRIJE

ABSTRACT

There is an increasing need for permanent investment in the industry due to the use of new technologies and the expansion of the business. Due to globalization, the government has great competition among market participants. Enterprises need to have a well-designed strategy to successfully position themselves on the market and achieve the largest market share. Because of the turbulent market,enterprisescan't expect constant revenues and security. The enterprise's success and survival is influenced by the strategy that needs to be defined according to its capabilities and its own vision of development.

Enterprises in the metal processing sector are in a very unequal position, because in general, the manufacturing industry in the Republic of Croatia is not developed. That is why it is necessary to find a solution and strategic opportunities according which the enterprise can develop not only its business but also the entire sector of the industry. If Croatia wants to turn into a regional economic leader then it has to rapidly and efficiently develop new technologies, develop new products and services and place them on the international market. To achieve this, it is necessary that Croatian enterprises behave innovatively, proactively, and assume the risks of starting new business ventures. The purpose of this paper is to illustrate the experiences of Croatian enterprises in the metal processing industry with the strategic investment promotion actions.

The aim of this paper is to study and systematically elaborate the basic theoretical approaches to the implementation of investment and private equity strategies in the metal processing industry as a purpose of achieving competitive advantage. Point out the experience of small, medium and large enterprises in the metal processing industry regarding investment strategy activities and present the current state of implementation and encouragement of measures to strengthen competitiveness. The research is conducted on a detailed analysis of the general state of the metal processing industry of the Republic of Croatia, and strategic models and methods that enterprises in the metallurgical industry can increase its competitiveness. Large, small and medium enterprises are analysed. A total 508 enterprises in the metal processing industry in the Republic of Croatia are analysed. The analysed enterprises are in the manufacturing industry - sectors C 24, C25 and C 28 according to the NKD (National Classification of Activities).

Keywords*: Investment, Private capital, Competitiveness, Industry.*

SAŽETAK

U industriji postoji rastuća potreba za trajnim ulaganjima zbog korištenja novih tehnologija i širenja djelatnosti. Zbog globalizacije vlada velika konkurencija među tržišnim sudionicima. Poduzeća moraju imati dobro osmišljenu strategiju kako bi se uspješno pozicionirali na tržištu i ostvarili što veći tržišni udio. Zbog turbulentnog tržišta, niti jedno poduzeće ne može očekivati konstantne prihode i sigurnost. Na uspjeh i opstanak poduzeća utječe strategija, koju poduzeće treba definirati prema svojim mogućnostima i vlastitoj viziji razvoja.

Poduzeća koja se nalaze u metaloprerađivačkom sektoru su u veoma nezavidnom položaju, jer općenito proizvodna industrija u Republici Hrvatskoj nije razvijena. Upravo zbog toga treba naći rješenje i ponuditi strateške mogućnosti na temelju kojih poduzeće može razvijati ne samo svoje poslovanje, već i cijeli sektor navedene industrije. Ukoliko se Hrvatska želi pretvoriti u regionalnog gospodarskog predvodnika tada mora brzo i efikasno razviti nove tehnologije, razviti nove proizvode i usluge, te ih plasirati na međunarodno tržište. Kako bi se to postiglo, potrebno je da se hrvatska poduzeća ponašaju inovativno, proaktivno, te preuzimaju rizike pokretanja novih poslovnih poduhvata. Svrha ovog rada je prikazati kakva iskustva imaju hrvatska poduzeća u metaloprerađivačkoj industriji sa strateškim akcijama jačanja konkurentnosti putem investicija.

Ciljovog rada je proučiti i sustavno elaborirati osnovne teorijske postavke primjene strategija investiranja i privatnog kapitala u metaloprerađivačkoj industriji u svrhu ostvarivanja konkurentske prednosti. Ukazati na iskustva malih, srednjih i velikih poduzeća u metaloprerađivačkoj industriji glede aktivnosti vezanih uz strategije investiranja, te prikazati postojeće stanje provođenja i poticanja mjera za jačanje konkurentnosti. Istraživanje se provodi na iscrpnoj analizi općeg stanja poduzeća metaloprerađivačke industrije Republike Hrvatske, te strateških modela i metoda kojima poduzeća u metaloprerađivačkoj industriji mogu povećati svoju konkurentnost. Prema veličini se analiziraju velika, mala i srednja poduzeća. Ukupno se analizira stanje 508 poduzeća u metaloprerađivačkoj industriji u Republici Hrvatskoj. Analizirana poduzeća se nalaze u prerađivačkoj industriji - sektoru C 24, C25 i C 28 prema NKD (Nacionalna klasifikacija djelatnosti).

Ključne riječi: *Investicije, Privatni kapital, Konkurentnost, Industrija.*

1. Introduction

Because of accelerating development of world economies in the post-industrial economies,the role of strategy of enterprises becomes increasingly pronounced. That especiallyrefers to of a small transition country like Croatia. Strategy is a term used to improve business and achieve competitive advantage in the market. Over the last few decades, the nature of the business world has changed considerably under the influence of new trends in the economy. One of the major strategic activities at micro and macro level is to increase investment level. This paper presents the impact and level of investment, as well as private capital, in order to increase the competitiveness of the metal processing industry in the Republic of Croatia.

2. Fundamental determinants of competitive advantage

The European Commission (2001., p. 75) defines competitiveness as the ability to produce goods and services that will respond to the challenges of international markets, while retaining a high and sustainable level of income or, more generally, the ability to produce, by the pressures of external competition, a relatively high income and the level of employment. Economic theory speaks of the competitiveness of enterprises and the competitiveness of the state. Many theorists have the view that competitiveness can only exist in the microsphere, while macro-level (state level) can notbemention as competitiveness. Enterprise is a dynamic system and is affected by the influences of the environment. On the one hand, an enterprise affects the environment and vice versa. When the environmental impact becomes dominant, enterprise needs to monitor the environment to identify and remove threats and negative impacts that arise from the outside environment, and take advantage of the opportunities provided by the environment. The environment of enterprise represents a whole set of internal and external factors. Knowing and identifying impacts from the environment is essential for success.

Competitiveness of country is very often difficult to determine: what is the goal and what is the purpose of its achievement. There is no unique definition of competitiveness, and each author defined it in a different way. It is very difficult to explore the country's competitiveness when the goals for its determination are not defined. When assessing competitiveness, different traditional elements of economic analysis are used. "Competitiveness is a meaningless word when applied to national economics and hence its practical use is not justified." (Reiljan, Hinrich, Ivanov, 2000., p. 9) Problems arising in terminology and the definition of competitiveness are not a reason to eliminate or exclude this concept from practice. "Macro-level of national competitiveness or competitiveness of countries is defined as the ability of the country to achieve economic growth faster than other countries and to increase prosperity so that its economic structure changes and adjusts more efficiently to the international exchange movement." (Bienowski, 2005., p. 258)

Competitiveness is the ability to coexist with other institutions under the conditions of conflict of interest. This type of coexistence (competitiveness) can relate to several levels: “Ability to survive - the lowest level of competitiveness, refers to the ability to adapt to a competitive environment without significant change or development. Ability of development - refers to the medium level of competitiveness, ie the ability to react actively to changes in a competitive environment and improve the quality and activity. Superiority - the highest level of competitiveness refers to the ability to influence a competitive environment through more efficient work, faster development and better quality than competitors. "(Reiljan, Hinrikus, Ivanov, 2000., p.11). The concept of competitiveness can be presented in three main groups: "Regional competition (local) - choice of product or service provider is limited to the nearest environment (often characteristic of the service market). National Competitiveness - domestic companies deliver a product or service (typical of the internal market protected by foreign trade restrictions). Global competitiveness - suppliers of products or services can come from all over the world. The term "international competitiveness" refers to the fact that in reality the degree of competitiveness is tested only on the international market. "(Garelli, 1997., p. 1)

"Competitiveness is most commonly defined at enterprise level. Competitive is an enterprise that can produce better quality products and lower costs than its rivals. Enterprise competitiveness has three dimensions: cost efficiency, quality and relative performance. The definition of industrial competitiveness is analogous to the company's competitiveness. However, industrial competitiveness inevitably involves a territorial dimension. The industry is defined as a group of companies of similar activities from a particular region or country, and its competitiveness is assessed by groups of producers with similar activities from other regions and countries. At national level, competitiveness is defined as the ability to compete with other countries. "(National Competitiveness Council, 2004., p. 10)

3. Determinants and division of the metal processing industry in the Republic of Croatia

Metal processing industry in the Republic of Croatia has a long tradition of successful business and development until 1990. Industry in Croatia is labour intensive, and it accounts for about 20% of GDP and employs a quarter of workers. Towards the end of the 1980s there was a significant fall in industrial production, numerous companies were either bankrupt or had poorly implemented privatization, and the number of employees was significantly reduced. In 1987, there were 535,000 employees in the Croatian industry, a decade later in 1999, the number of employees decreased to 355,000 and in 2005 to 277,000. The great economic crisis that has emerged since 2008 has surely further undermined the industry and the number of employees in it. How strongis industry depends on its quality. "The quality of the industry is determined by the structural structure, technological and capital development, product competitiveness, age and gender structure, labour force qualification, etc. Industrial and economic regions depend on different types of industries." (Stiperski, 1995., p. 124) One of main problems in Coratian economy and gelerally in society is lack of labour force. “Croatia is a country with one of the highest rates of youth unemployment. That is why more and more young and educated people decide to leave their home”.(Knežević, 2006., p.1122)It is necessary to know how structured is metal processing industry. "According to the National Classification of Activities 2007 (NKD 2007), the metal processing industry belongs to the" C "area, where the processing industry is involved in the transformation of raw materials into a new product. Sector of the metal industry includes C24 Manufacture of metals, C25 Manufacture of fabricated metal products, except machinery and equipment and C28 Manufacture of machinery and equipment, d.n.

4. Review and analysis of historical investment data

The investment is every capital investment with a view to making a profit. “The existence of non-refundable costs is often of crucial importance in the development of individual industries, ie the number of entries and outlets on a particular market. Non-refundable costs are costs that, due to their specificity, can not be repaid, for example investments that can not have other purpose, advertising, etc.” (Škuflić, Turuk, 2013., p.26) “The general purpose of the investment is the maintenance and development of the company. One investment object may consist of one or more investment elements, which may be: land (purchase, extension and amelioration), construction facilities (purchase or construction of business buildings, factories, warehouses, etc.), equipment (purchase of means of transport, etc.), multi-year crops (picking on orchards, olive groves, etc.), and intangible investments (exploration of natural resources, development of investment programs, training of personnel, etc.)”. (Karić, 2009., p. 212) It is considered that investment decisions are very risky business decisions, and the investor needs to assess well whether the expected results justify the investment needed.

Table 1 *Investment in the metal processing industry in the Republic of Croatia for the period 2008-2012*

INVESTMENT					
	2012.	2011.	2010.	2009.	2008.
	Smallenterprise				
C24	133.652.646	18.705.690	32.033.113	16.115.162	29.818.684
C25	199.740.404	215.728.031	201.742.905	242.389.907	291.924.230
C28	109.765.972	109.135.026	66.107.556	47.170.935	164.103.143
	Mediumenterprise				
C24	70.219.187	46.734.359	57.231.200	79.004.869	55.399.074
C25	162.788.935	235.618.545	135.608.078	135.706.886	243.362.719
C28	91.315.659	120.700.953	114.256.380	78.154.082	193.106.215
	Largeenterprise				
C24	23.231.217	108.355.196	248.807.722	276.859.918	113.712.832
C25	379.829.904	183.470.609	116.275.487	134.239.583	191.213.925
C28	70.375.729	44.993.581	54.791.739	90.709.346	10.306.062
	TOTAL				
C24	227.103.050	173.795.245	338.072.035	371.979.949	198.930.590
C25	742.359.243	634.817.185	453.626.470	512.336.376	726.500.874
C28	271.457.360	274.829.560	235.155.675	59.293.246	367.515.420

Source: creation of author according to the data of the Croatian Chamber of Economy – County Chamber of Slavonski Brod)

Table 1 shows that small enterprises in sector C25 are unparalleled invested in medium to large. However, the proportion of investments per sector is much higher at the state level than at the GDP level lagging behind the national average. Without investment, there is no competition or financial progress, and many companies end their loss-making business, because they probably consider investments unnecessary or perhaps unreachable.

***Table 2** Investments in the metal processing industry in Brod Posavina County for the period 2008-2012*

INVESTMENT					
	2012.	2011.	2010.	2009.	2008.
	Smallenterpises				
C24	0	127.586	112.131	133.191	4.098
C25	4.500.381	3.803.578	8.922.896	13.574.758	10.827.208
C28	2.700.363	3.626.847	1.155.417	1.805.922	7.687.313
	Mediumenterprises				
C24	36.232.420	8.965.930	3.017.621	0	0
C25	2.587.032	1.210.403	5.116.325	7.581.850	11.760.876
C28	738.756	0	0	0	0
	Largeenterprises				
C24	0	0	0	0	0
C25	23.592.096	15.476.698	17.663.507	55.370.697	44.923.715
C28	0	0	0	0	0
	TOTAL				
C24	36.232.420	9.093.516	3.129.752	133.191	
C25	30.679.509	20.490.679	31702728	76.527.305	67.511.799
C28	3.439.119	3.626.847	1.155.417	1.805.922	7.687.313

Source: Creation of author according to the data ofthe Croatian Chamber of Economy – County Chamber of Slavonski Brod)

According totable 2 small businesses in BrodPosavina County almost do not invest at all. Out of almost 200 million HRK are invested in small companies in the Republic of Croatia in 2012, only 4.5 million HRK was invested in companies in BPP. This is a very small percentage, while in 2012 there were no investments at BPP in the C 24 small business sector. Investments are a clear indicator of how much an enterprise invests in development and business advancement. Without investment there is no future development, no strategy of development can be made, only strategies that do not fail or remain at the existing level of business. Enterprise strategy should be related to enterprise growth, quality growth and positive progress, not stagnation or reduction of production volume. Only when companies have a growth-enhancing strategy will also be expected to increase their competitiveness and thus increase their profits.

5. Research

The survey was conducted on 508 enterprises in 2016, of which 502 (98.8%) were privately owned and 6 (1.2%) were state-owned. The middle-of-year establishment of the company was in 1997 (the interquartile range from 1992 to 2007, meaning that 50% of the observed companies were established in this interval), the oldest company was founded in 1921 and the youngest in 2014. The number of board members ranges from 1 to 6 members, the mean value 1 (interquartile range 1 - 2), while the average number of employees 7 (interquartile range 1 - 33), with companies without employees to enterprises with 1698 employees. The average net salary is 3,780 HRK (interquartile range 2,070 HRK to 5,065 HRK). Most 492 (96.9%) are privately owned. Predominantly private property has 7 (1.4%) enterprises (over 50% private equity). Two companies (0.4%) are state-owned where they have not started conversion (0.4%) or are state-owned in the conversion process. Cooperative ownership is 2 (0.4%) of enterprises. According to industry segment, 35 (6.9%) of the companies are in the production of metals, 370 (72.8%) of finished metal products except machinery and equipment and 100 (19.7%) of machinery and equipment. Three companies are engaged in the sale and repair of motor vehicles and motorcycles, as well as in the field of trade. According to the size of the company, there are small 400 (78.3%), medium 93 (18.3%), while large 15 (3%). Capital of 447 (88%) of the company is 100% domestic, only one company has 100% private capital, 100% foreign capital is in 47 (9.3%) enterprises, while other companies with a certain percentage of foreign capital. For three (0.6%) companies there is no data on the source of capital.

6. The impact of private capital on the competitiveness and profitability of enterprises in the metal processing industry

H1: Enterprises with a higher share of private capital in the metal processing industry are more competitive and profitable.

To demonstrate hypothesis 1: the difference in parameters (credit rating, establishment year, number of employees, average net salary of employees, total revenues and expenses, EBITDA, EBIT, EBT, profit tax, net profit, new value, productivity, money , exports and imports, assets / liabilities, Non-current and current assets, equity and reserves, liquidity liquidity coefficient, Altman Z Scor, days of liabilities and liabilities obligations, operating margin, ROE, ROA, profit per employee and net profit per employee) by type of ownership over the enterprise (private or state).

Testing was carried out using Mann Whitney's U Test. Mann Whitney The test is in the group of nonparametric statistical tests. This test is used to determine the significance of the difference between the two observed groups. The basis for carrying out this test are the values of sequential or numerical variables in independent samples derived from two basic sets.

The sample size of the first basic set is denoted by n1, and from the second base with n2, assuming that n1≤n2. If the samples are of different sizes, the first set of bases is considered the one from which a smaller sample was chosen. In order to obtain the test of size T, the values of both samples are merged first, resulting in a new array of n1 + n2 members. Then the values of the new string join the rankings, the lowest one has the rank 1 and the highest rank n1 + n2. If there is more equal values, each is assigned an average rank, Test size T is equal to the sum of the rankings associated with the sample members from the first set of bases in a common sequence. Based on these data, it will be possible to determine whether the parameters differ depending on the type of ownership of the enterprise.

For the needs of the test, two assumptions will be set:
H1.1: the ranges of observed parameters do not differ significantly according to the type of ownership of the enterprise,
H1.2: The ranges of observed parameters differ significantly according to the type of ownership of the enterprise.
At this point, the level of test significance is set at $\alpha = 0.05$. Therefore, if the level of test significance is less than 5% (5% significance level is 95% confidence), assumption H1.1 will be rejected and alternative assumption H1.2 will be accepted, ie there will be a significant difference in the rankings observed parameters by type of ownership over the enterprise. If significance is greater than 5%, H1.2 will be rejected and H1.1 will be accepted, ie no statistically significant difference in the ranges of observed parameters will be demonstrated by the type of ownership of the enterprise.
The bonus rating is 5 (an interquartile range of 3 to 10), somewhat higher in state-owned enterprises than state-owned by the median 9 (interquartile range 7-12), but without any significant difference.
The total revenues are median 2,060,250 HRK (interquartile range from 277,800 HRK to 14,230,200 HRK), slightly lower for privately owned companies, with a mean value of 2,033,400 HRK (interquartile range from 275,750 HRK to 14,171,000 HRK) compared to the ones state owned with median total revenues of 5,892,600 HRK (interquartile range 1,562,200 HRK to 34,386,000 HRK), but without statistically significant differences between state and private

companies.The total expenditures are median 1.968.000 HRK (interquartile range from 298.225 HRK to 13.668.875 HRK), slightly lower for privately owned enterprises, with a mean value of 1.920.200 HRK (interquartile range from 297.500 HRK to 13.336.000 HRK) relative to the ones state owned with median total revenues of HRK 19,302,000 (inter-quartile range from HRK 1,557,200 to HRK 45,657,000), but without statistically significant differences.Significantly higher profits before interest, taxes and depreciation (EBITDA), ie the difference between operating income and operating expenses of a company that does not include depreciation costs in privately owned companies, with a median of 128,700 HRK (interquartile range 2,850 HRK to 1,227,300 HRK) compared to state-owned companies with a median value of -831,950 HRK (interquartile range -10,343,000 to 296,725 HRK) (Mann Whitney test, p = 0,025), as well as the difference between operating income and expense (EBIT) the property has a mean value of 52,650 HRK (interquartile range -625 HRK to 628,350 HRK) compared to the state-owned ones with -3,104-5

Table 3 *Assessment of environment and dispersion of parameters by type of property*

Parameter	Median (interquartilerange)			P*
	PrivateOwnership	State Ownership	Total	
Credit rating	5 (3 - 10)	9 (7 - 12)	5 (3 - 10)	0,052
Number of employer	7 (1 - 31,25)	76 (14 - 172)	7 (1 - 33)	0,039
Average Net Salary	3.764 (2.048,5 - 5.069)	4.508 (3122 - 5163,25)	3780 (2.070 - 5.065)	0,392
Toral revenues	2.033.400 (275.750 - 14.171.000)	5.892.600 (1.562.200 - 34.386.000)	2.060.250 (277.800 - 14.230.200)	0,352
Total expenses	1.920.200 (297.500 - 13.336.000)	19.302.000 (1.557.200 - 45.657.000)	1968000 (298.225 - 13.668.875)	0,224
EBITDA	128.700 (2.850 - 1.227.300)	-831.950 (-10.343.000 - 296.725)	123.500 (2.250 - 1.169.425)	0,025
EBIT	52.650 (-625 - 628.350)	-3.104.500 (-13.191.000 - 16.625)	50.900 (-850 - 609.750)	0,010
EBT	40.100 (0 - 500.700)	-3.177.600 (-16.388.000 - 6.925)	38.450 (0 - 494.525)	0,006
Profit tax	2.650 (0 - 44.550)	0 (0 - 400)	2500 (0 - 42550)	0,031
Net profit	32.600 (0 - 448.375)	-3.177.600 (-16.388.000 - 5.725)	31.400 (0 - 426975)	0,006
New value	562.631,5 (65.783,5 - 3.839.700)	8.443.000 (955808 - 16.298.000)	598588,5 (66125,75 - 4067116,5)	0,106
Productivity	95.476 (63.853 - 137.488,5)	88.821 (58369 - 100.192)	94.065 (63861 - 136218)	0,414

**Mann Whitney U test; Source: made by author*

The average export for state-owned enterprises is 1.874.000 HRK (interquartile range from 0 to 21.377.000 HRK), while in private companies 0 HRK (interquartile range from 0 HRK to 2.880.300 HRK), although there are differences in the medians between private and state enterprises they are not statistically significant, which is also valid for imports, which is in the case of state enterprises 1,483,000 HRK (interquartile range 0 HRK to 14,060,000 HRK) compared to private enterprises with medium import of 0 HRK (interquartile range 0 HRK to 923,100 HRK).In state-owned companies, the total assets / liabilities are significantly higher, with a mean value of HRK 41,994,000 (inter-quartile range from HRK 15,559,000 to HRK 100,900,000) with respect to privately owned companies, with total assets / liabilities of EUR 2,566. 000HRK (interquartile range from 367.150 HRK to 7.551.500 HRK) (Mann Whitney U test, p = 0.015). The average value of long-term assets of HRK 19,905,000 (inter-quartile range from HRK 4,110,500 to HRK 71,561,000) to the state-owned enterprises is significantly lower than in the case of privately owned companies with a median value of 672,100 HRK (interquartile range 36,150 HRK to 7.551.500 HRK) (Mann Whitney U test, p = 0.039). Short-term assets are higher in state-owned enterprises with a mean value of 16,816,000 HRK (interquartile range 2,120,100 HRK to 36,563,000 HRK) compared to privately owned companies with a mean value of 1,388,400 HRK (interquartile range 229,025 HRK to 9,324,900 £). There is no significant difference between private and state-owned enterprises. Capital and reserves are higher in state-owned enterprises and amount to HRK 20,009,000 (inter-quartile ranging from HRK -35,669,000 to HRK 50,049,000) in relation to privately owned companies, where the value of average capital and reserves is HRK 503,950 (interquartile range 23.175 to 5.677.800 HRK). There is no significant difference between private and state-owned enterprises. The current liquidity coefficient is higher in privately owned companies than 1.31 (interquartile range 0.75 to 2.44) compared to state-owned enterprises where the liquid liquidity rate is 0.855 (interquartile range 0.4525 to 10.2025). Altman Z scores higher in state-owned enterprises and amounts to 2,885 (interquartile range -0,9225 to 1003,75) compared to privately owned companies where 1.88 (interquartile range 0.775 to 3.41), with no significant differences by type of company.

The rate of return on equity (ROE), which is also used as a good indicator of the growth rate of an enterprise, whose average of 15% is considered a good enterprise, is significantly higher in private companies (Mann Whitney U test, p = 0.024) 9.1% (interquartile range 0.4% to 35.2%) compared to state-owned enterprises with a mean rate of 0 (interquartile range -12.57% to 3.95%).The Return on Assets (ROA), which is an indicator of the success of asset utilization in profit generation, is also used to assess the success of new projects whereby the project will be more profitable if ROA is higher than the interest rate on loans, it is significantly higher in companies with private (interquartile range 0 to 10.5%) in relation to state-owned enterprises with a rate of -2.95% (interquartile range -18.13% to 0.25%) (Mann Whitney U test, p = 0.009). The average income per employee of 338,687.50 HRK (interquartile range 190,158.75 HRK to 591,017,50HRK) is significantly higher in private companies than in state-owned enterprises with average income per employee of 150,698.50 HRK (interquartile range 72,959.50 HRK to 251,898.25 HRK) (Mann Whitney U test, p = 0.015).

Table 4 *Assessment of environment and dispersion of parameters by type of property*

Parameter	Median (interquartilerange)			P*
	Private	State	Total	
Export	0 (0 - 2.888.300)	1.874.000 (0 - 21.377.000)	0 (0 - 2974.975)	0,654
Import	0 (0 - 923.100)	1.483.000 (0 – 14.060.000)	0 (0 - 934.800)	0,431
Total Assets / Liabilities	2.566.000 (367.350 - 20.328.000)	41.994.000 (15.559.000 – 100.900.000)	2.664.650 (385725 - 23397675)	0,015
LongtermAsset s	672.100 (36.150 - 7.551.500)	19.905.000 (4.110.500 – 71.561.000)	684300 (36525 - 8455075)	0,039
ShorttimeAsset	1.388.400 (229.025 - 9.324.900)	16.816.000 (2.120.100 – 36.531.000)	1.434.400 (229825 - 9382900)	0,060
Capital	503.950 (23.175 - 5.677.800)	20.009.000 (-35.669.000 – 50.049.000)	519.100 (23625 - 6435450)	0,086
Liquidity coefficient	1,31 (0,75 - 2,44)	0,855 (0,4525 - 10,2025)	1,305 (0,75 - 2,4525)	0,618
Altman Z scor	1,88 (0,775 - 3,41)	2,885 (-0,9225 - 9,52)	1,88 (0,77 - 3,42)	0,586
Operating margin	3,84 (-1,09 - 9,79)	-5,29 (-104,63 - 0,7575)	3,75 (-1,34 - 9,75)	0,010
ROE	9,1 (0,4 - 35,2)	0 (-12,575 - 3,95)	8,55 (0,4 - 34,85)	0,024
ROA	3 (0 - 10,525)	-2,95 (-18,125 - 0,25)	2,8 (0 - 10,3)	0,009

Parameter	Median (interquartilerange)			P*
	Private	State	Total	
Revenueperemployee(HRK)	338.687,5 (190.158,75 - 591.017,5)	150.698,5 (72.959,5 – 251.898,25)	337.402,5 (188997,75 - 578255,5)	0,015
Net Profit perEmployee(HRK)	7.781 (1.012,5 - 34.745)	-19.859 (-109711,75 - 394)	7.138 (833 - 34589)	0,002

**Mann Whitney U test, Source: made by author*

As the significance in 13 parameters is less than 0.05, H1.2 is accepted and H1.1 rejected, ie there is a statistically significant difference in the number of employees, EBITDA, EBITD, EBT, profit tax, net profit, total assets / liabilities, long-term assets, operating margin, ROE, ROA, income and net profit per employee.

6. Conclusion

Hypothesis 1 (H1) is confirmed that the share of private capital affects the competitiveness and profitability of the metal processing industry. For the analysis of this hypothesis, the statistical data processing of sample of 508 small, medium and large enterprises, ie their indicators, was applied in order to put the relationship in and prove the hypothesis of the set variable. Most of the companies in the metal processing industry are funded through private equity, and in this very aspect, they want to analyze the relationship with competitiveness and profitability.

REFERENCES

European Commission (2001). ***Second Report on Economic and Social Cohesion***, http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/contentpdfen.htm [accessed 10.02.2015]

Garelli, S. ***World The Four Fundamental Forces of Competitiveness***, Competitiveness Yearbook, http://www.imd.ch/wcy/approach/fondamentals.html26.09.1997 [accessed 22.03.2018]

Hrvatska gospodarska komora - Slavonski Brod, http://www.hgk.hr/category/zk/slavonski-brod [accessed 15.03.2017]

Karić, M., (2009.) ***Ekonomika poduzeća***, Ekonomski fakultet u Osijeku, Osijek

Knežević, S., ***Migration intension among Youth in Brod Posavina County***, Ekonomski fakultet u

Nacionalno vijeće za konkurentnost, 2014 http://www.konkurentnost.hr/Default.aspx?art=551&sec=2 [accessed 13.03.2017]

Reiljan, J, Hinrikus, M. i Ivanov, A. (2000). ***Key Issues in Defining and Analysing the Competitiveness of a Country****,* University of Tartu, Faculty of Economics and Business Administration, Tartu

Stiperski, Z. (1995). ***Promjene u prostornom rasporedu granske strukture industrije Hrvatske u razdoblju 1971-1988.***, *Geografski glasnik* 57

Škuflić, L., Turuk, M., ***Barijere ulaska malih i srednjih poduzeća uprerađivačku industriju u Hrvatskoj***, Poslovna izvrsnost Zagreb, god. VII (2013) br. 2

Marina Đukić, PhD., Assistant Professor
Department of Cultural Studies of the University of J. J. Strossmayer in Osijek
Trg Sv. Trojstva 3, Osijek
Phone: +385 95 9093 088
E-mail: mdjukic@unios.hr

Tomislav Levak, M.A., PhD candidate/Teaching Assistant
Department of Cultural Studies of the University of J. J. Strossmayer in Osijek
Trg Sv. Trojstva 3, Osijek
Phone: +385 91 5091 208
E-mail: tomo.levak@gmail.com

CHALLENGES IN FUNDING AND DEVELOPMENT OF LOCAL MEDIA IN EASTERN CROATIA

IZAZOVI FINANCIRANJA I RAZVOJA LOKALNIH MEDIJA ISTOČNE HRVATSKE

ABSTRACT

Despite the dominant market position of Croatian media, local media as some of the best "evidence" of media system pluralism, still have great potential, which is recognized in working documents for discussion about media politics in Republic of Croatia 2015–2020. Aimed at sustainable media development, local media should become communication centers of social and cultural life for local and other communities (Ministry of Culture, 2015). However, market growth carries along associated trends not just reserved for national media. The trend of internet's development into a dominant information channel for citizens emphasizes the question of online content production that has (thus far) been free of charge; decline in revenue from sales and advertising causes journalistic staff downsizing; private local media funding through public subsidies (Fund for the Promotion of Pluralism and Diversity) poses a question on the justifiability of co-funding profit, etc.
Thereby, the main purpose of the paper is to collect available facts about the condition of local media in Eastern Croatia, focusing on electronic media, as well as to reconstruct certain development trends present in previous years. Although the print media market in Eastern Croatia will be mentioned, the analysis will focus on local television and radio broadcasters due to data accessibility, as well as online news web sites, which operate as locally profiled standalone media. Based on data from the Agency for Electronic Media and partially from the Croatian Bureau of Statistics, the conducted analysis will discover possible trends in the employee structure of local media, as well as the types and forms of funding from various sources.

Key words: *local media, funding, advertising, subsidies, online media content.*

SAŽETAK

Unatoč dominantnoj poziciji tržišnog dijela medija u Hrvatskoj, lokalni mediji kao jedan od najboljih "dokaza" pluralizma medijskog sustava imaju veliki potencijal koji je prepoznat i u radnim dokumentima za raspravu o medijskoj politici Republike Hrvatske 2015.-2020. U cilju održivog medijskog razvoja oni bi trebali postati komunikacijska središta društveno-kulturnog života lokalnih i drugih zajednica (Ministarstvo kulture, 2015). No, rast tržišta sa sobom nosi i prateće trendove koji nisu rezervirani samo za nacionalne medije. Trend razvoja interneta u

dominantni kanal informiranja građana nameće pitanje financiranja produkcije online sadržaja koji je (zasada) besplatan; pad prihoda od prodaje i oglašavanja uzrokuje smanjivanje novinarskog kadra; financiranje privatnih lokalnih medija kroz javne potpore (Fond za poticanje pluralizma i raznovrsnosti) nameće pitanje opravdanosti sufinanciranja profita itd.
Stoga je osnovni cilj rada prikupiti dostupne činjenice o stanju lokalnih medija istočne Hrvatske s fokusom na elektronske medije, kao i rekonstruirati određene trendove razvoja koja su prisutni u posljednjim godinama. Iako će se spominjati i tržište tiskanih medija istočne Hrvatske u fokusu analize zbog dostupnosti podataka bit će lokalni televizijski i radijski nakladnici, kao i jednim dijelom online news portali koji djeluju kao lokalno profilirani samostalni mediji. Na temelju podataka Agencije za elektroničke medije te dijelom podataka iz Državnog zavoda za statistiku analizirat će se eventualne promjene u strukturi zaposlenika u lokalnim medijima kao i oblici i načini financiranja kroz različite izvore.

Ključne riječi: *lokalni mediji, financiranje, oglašavanje, potpore, online sadržaji.*

1. Introduction

The starting point in the analysis of the local media scene are findings about the factual situation of the media in Croatia, found in working materials on Croatian media politics, wherein it is possible to make conclusions on their further development. There is a media system in place dominating the market-commercial regime of accumulation, also confirmed by an analysis of development and economic indicators of the local media in Eastern Croatia, performed on the basis of publicly available secondary data of the Agency for Electronic Media (AEM), the Ministry of Finance, the Croatian Chamber of Economy (CCE), the Croatian Association of Communications Agencies (CACA) and the Information Commissioner[1]. In one such media model dominated by commercial media, the only possible "evidence" representing pluralism are the many local radio stations, as well as the wider local media in general. Their great potential and importance has been recognized ten years ago, when the European Union formalized the concept of community media, a framework in which local radio is recognized as a means of fostering local values, respecting cultural diversity, promoting civil society development and media literacy and (most often) being the only source of local news in thriving globalization processes (Mučalo, 2016, 59). Although Croatia is still lagging in adapting to new media trends associated with the so-called community media, the dominant market trends in the media sector are also largely felt on the local scene. Therefore, the basic objective of this paper is not a detailed analysis of the operations of all local media in Eastern Croatia but focusing on identifying local media challenges – primarily local television and radio broadcasters – arising from their business or financial condition, due to limited access to data and lack of space available for analysis.

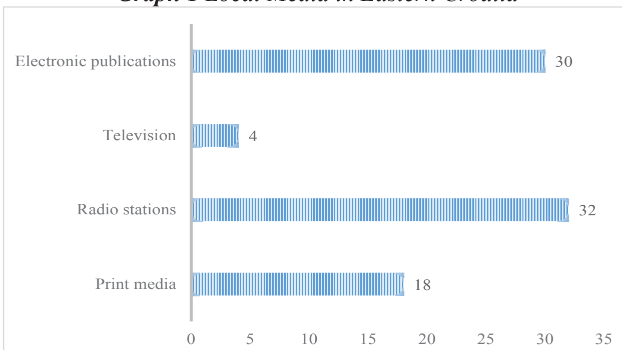
2. Local media landscape of Eastern Croatia

The local media scene of Eastern Croatia spatially includes media outlets in five counties: Osijek-Baranja, Vukovar-Srijem, Brod-Posavina, Požega-Slavonia and Virovitica-Podravina. These are four local television media service providers (*Slavonskobrodska televizija*, *Vinkovačka televizija*, *Televizija Slavonije i Baranje*, *Osječka televizija*) and 32 radio broadcasters, 18 printed and 30 electronic media outlets[2] (Graph 1). Although this is not a large number of media compared to the total number (according to AEM data, there are currently 31 television broadcasters, 154 radio broadcasters and 309 electronic media outlets in Croatia), it should be mentioned that the media with national concessions (television and radio) were not included in the media structure of Eastern

[1] An independent body for the protection of the right to access information, which, through the Constitution of the Republic of Croatia, protects, monitors and promotes the guaranteed right to access and re-use information.
[2] Only those local electronic publications listed in the Book of electronic publications, with a registered seat in one of the relevant five counties, were included in the analysis.

Croatia. Also, only the electronic publications with informative characters or general thematic orientation (web portals containing several sections, such as news, politics, culture, sport, finance, as they seek to include a wide range of topics and their web pages offer a major source of information to the selected audience), registered in one of the five counties analyzed, are being observed.

Graph 1 *Local Media in Eastern Croatia*



Source: Agency for Electronic Media, Book of audiovisual media, Book of audio media, Book of electronic publications[3]; Croatian Chamber of Economy, Register of publication and distribution of the press 2016.[4]

The reason for the reduced number of so-called local electronic publications lies in the fact that internet users in Croatia most frequently visit e-publications focused on local events and news or are most interested in news from their immediate surroundings (local news about their city, place or county) (Bilić et al., 2017, 30). Although the focus of this paper is on the analysis of electronic media, it is impossible to bypass the printed media in painting a local media scene.

Table 1 *Publications registered in Eastern Croatia*

Orientation	Daily	Weekly	Biweekly	Monthly	Bimonthly and other
Universal informative publlication	Glas Slavonije	Glas Podravine Kronika požeško - slavonska Virovitički list Posavska Hrvatska Lokalni tjednik - Valpovština Brodski vjesnik Vinkovački list	Vukovarske novine	Županjski list	
Specialised publication		NOVI MAĐARSKI ILUSTRIRANI LIST HORVATORSZAGI MAGYAR NAPLO		Humor Talijanke Poduzetnik	Izvori BIZdirekt Bilten Općine Feričanci Ovčarsko - kozarski list

Source: Register of press publication and distribution, Croatian Chamber of Economy, 2016

Table 1 shows all registered publications in Eastern Croatia, as listed in CCE's registry of publishers in 2016. Of the 22 print media certified for publication, four have no plans to publish or have been erased. The low strength of the local print media market is evidenced by the fact that there is only one local daily newspaper and seven weekly news bulletins in the region, reiterated by the average circulation of 1.336.77 copies for all registered publishers certified for publication in the next two years.

[3] Data available on AEM web page, in the Book of electronic publications, television and radio, https://www.e-mediji.hr/hr/pruzatelji-medijskih-usluga/ (accessed 10 January 2018)
[4] Data available on CCE web page, in the Register of publication and distribution of the press, https://www.hgk.hr/s-industriju-i-it/javne-ovlasti-u-sektoru-za-industriju (accessed 5 March 2018)

3. Media development trends

The economic crisis and the simultaneous acceleration of technological changes over the past decade have fundamentally shaken the print and electronic media, as well as their established business models globally, nationally and locally. Although the internet is often seen as the cause of the collapse of traditional media business models, it has only accelerated the underlying problems that arose with the concentration of media ownership and the commercialization of media content in decades preceding it. However, when it comes to the key trends in digital media for 2017, the annual report of the Reuters Institute for the Study of Journalism emphasizes further layoffs and losses in the news industry, wherein many US and European newspapers will cease business, reduce business volume, or move exclusively to online editions (Newman, 2017, 7). The crisis of the commercial system is above all visible in the erosion of income. The decrease in sales of daily newspapers, and sales and advertising revenue are particularly noticeable in print media, which has caused a decimation in journalistic staff, wherein "some countries in the region recorded a drop in employment of journalists by more than 50%" (Živković, 2016, 1). With various direct and indirect grants, many European media policies are trying to address these problems. Although indirect aid in the form of tax incentives and state advertising has proven to be inefficient, direct aid has been able to reduce the loss in the number of media, journalists, topics and perspectives, but they are mostly directed to commercial media and co-funding profits (Živković, 2016, 1). Another occurring problem is that commercial media in such a small media market would not survive or would have difficulty functioning without state budget resources, which is acknowledged by most publishers (Skender, 2016). Consequently, this budgetary support is by no means sufficiently transparent, the annual subsidies from the state budget are reduced every year due to the recession. There are large differences in the amounts of subsidies to certain media, where those based in more affluent local communities receive the most, alongside those that are networked, thus withdrawing funds from several different local budgets (Skender, 2014, 13). The issue of the relationship of the media and local authorities pose additional problems. Thus, the Partnership for Social Development (2017), in its research of the clientelism index in the media, highlighted the problematic and non-transparent influence of advertising agencies, particularly in digital marketing, the suppression of media pluralism and the abolition of state aid, and its redirection to individual local authorities (the case of the City of Zagreb), and the problem of hidden ownership agreements in local TV and radio stations that enable political influence on local media. The following chapters will attempt to indicate how well media trends are depicted on the local media scene.

2.1. Challenges of Local Media Funding

The traditional models of funding traditional media – the relatively stable and long-term sustainable public funds for public broadcasting and the market revenues, as well as various forms of public support for commercial media – are no longer sufficient (Živković, 2016, 2). Given the available space and limited availability of data, this paper focuses on reflecting the challenges of media funding regarding the decrease in advertising revenue as a trend in most media outlets (excluding the internet), the impact on the number of employees in local media, and the level of state aid as a traditional tool to co-finance and support the development of local media.

2.1.1. Revenues from advertising space sale and the impact on funding content production and journalistic staff

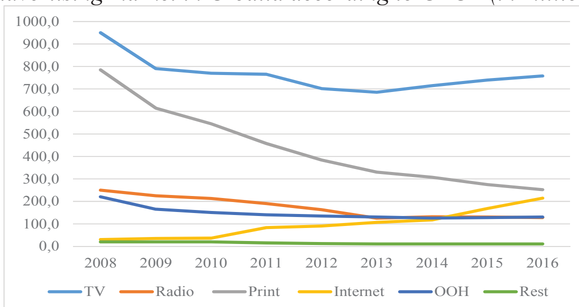
Although Croatian media owners keep their business indicators such as revenue structure as confidential information, secondary data for certain media, like local TV and radio broadcasters, were used in trying to confirm the identified challenges in local media business. The analysis of the local televisions' business conducted in 2015 showed that total revenues of local TV stations decreased by 3.6 percent compared to the previous year. As expected, the analysis by region indicated that the largest revenues were reached by broadcasters in the Zagreb area (33 %), but also by television broadcasters in the Slavonia region (including TV broadcasters that are the subject of this paper), which generated 23 % of total revenues from activities in 2015, or 15 million HRK (AEM, 2015, 20). Furthermore, of the analyzed local TV broadcasters in Croatia, *Osječka televizija* along with *Nezavisna televizija* (Zagreb) achieved one fifth of the total revenues of all TV broadcasters at the local level. Based on these indicators, three broad categories of broadcasters have been identified in the research, where the first group consists of broadcasters that can be expected to improve profitability, both by increasing business revenue and by better use of assets and debt. Among them 50 percent are companies in the Slavonia region and 50% are companies from Central Croatia (AEM, 2015, 7). Hence, the analysis of the total revenues of local TV stations in Eastern Croatia indicates a trend of expected improvement in profitability and revenue growth compared to other local Croatian media. By contrast, trends in print media market, according to data from the Croatian Competition Agency (CCA), continue to show a downward trend in total revenues caused by the continued decline of daily newspapers and weekly publications ever since 2014[5]. The crisis of the Croatian media economy, which is most directly reflected in the erosion of revenues of television, radio, news agencies, newspapers and magazines, but also in the reduction of traditional media audiences and decreasing sales for six consecutive years, was also recorded in the media strategy (Ministry of Culture, 2015a, 3).

Since revenue from the sale of advertising space is the most important source of income for all Croatian media, more attention has been paid to the trends at the national and local level. According to CACA Media AdEx results, media spending on media lease decreased from 2008 to 2013 for all media outlets except the internet, followed by a slight recovery, along with the largest increase of an individual communication channel – the internet. The negative trend of advertising investment is still present in the press and radio (Graph 2). The CCA states that all newspaper broadcasters, apart from *Novi List*, recorded a noticeable drop in advertising revenue (including *Glas Slavonije* as a regional daily newspaper whose individual market share is only 10 %), while regional and local weekly publishers experienced relatively stable advertising revenues in the observed period. About half of all market-based revenue of local TV broadcasters via advertising, is related to local advertisers (AEM, 2015, 52), which speaks in favor of the recovery of this sector of local media, in addition to the increase in investment in total TV advertising, according to data from CACA. The observed recovery of the economy will not bring advertisers back to the “old” media in the previous scope, as evidenced by the rise in advertising spending on the internet (Ministry of Culture, 2015b, 10). Along with taking over small ads as a traditional revenue source for newspaper publishers, the internet is also taking over audiences, not only because the computer is handier, but also because newspaper (audio, video) content on the internet is mostly free of charge (McChesney & Nicols, 2010, 27). All previous attempts to find a convincing business model of monetizing digital content have failed, but revenues from internet access and digital advertising continue to grow (Živković, 2016, 2).

Considering the size of the electronic publications market in Croatia, there are issues regarding market saturation and the type of business model that might guarantee the sustainability of electronic publications, especially the so-called local ones. Although advertising revenue on the internet is growing, the impact of this market on the total advertising market is relatively small, locally speaking, with only 4.7 % of revenues of all electronic publications collected by local (municipalities and cities) service providers (Bilić et al., 2017, 58). As users are mostly unwilling to pay for content on the internet, it is expected that further development of new models of electronic publications funding (Bilić et al., 2017, 66) will be promoted through public policies where part of the realized advertising revenue can be redirected to the production of quality online content (Živković, 2016, 2), which is of particular importance to local electronic publishers, from which citizens mostly gather local information.

[5] Data available on CCA’s web page, in the Press market research for 2015 and 2016, http://www.aztn.hr/ea/wp-content/uploads/2016/10/tr%C5%BEi%C5%A1te-tiska-2015.-i-2016..pdf(accessed 9 March 2018)

Graph 2 *Trends in advertising market in Croatia according to CACA (in millions of HRK)*



Source: CACA, 2017 (CACA Media AdEx media expenditure)[6]

Although economic recession, making capital more scarce and expensive, causes a turn towards those resources that are in abundance in practice, i.e. the people (Bahtijarević-Šiber, 1999, 47), it has in the Croatian case brought about “drastic cuts in newsrooms” (Živković, 2016, 4), along with declining revenues, and difficulties in restoring previous media business models. Local TV and radio broadcasters in Eastern Croatia followed the trend with decreasing employee numbers (Table 2) in the three-year period, according to data from the Bureau of Statistics. At the same time, according to an AEM document “An analysis of local TV commercials in 2014 and 2015”, the number of employees in four local television stations in Eastern Croatia increased (there were 85 employees in 2014 and 88 in 2015, at local TV broadcasters). (AEM, 2015, 12)

Table 2 *Local TV and radio employees in Eastern Croatia*

Number of employees in 5 analyzed counties	2014	2015	2016
Local TV stations	73	69	60
Local radio stations	241	235	236
TOTAL	**314**	**304**	**296**

Source: Croatian Bureau of Statistics, Radio and television in 2014, 2015, 2016[7]

In contrast to the number of employees, the difference is also in the trend as the AEM data indicate an increase in the number of employees between 2014 and 2015. The increase in the number of employees, but especially the changes in advertising trends, will in the long run have a positive impact on the development of local media and the entire economy, as shown by the survey on the economic significance of advertising in the EU (Deloitte, 2017).

2.1.2. State Aid and Fund for the Promotion of Pluralism and Diversity of Electronic Media

The concept of sustainable journalism in Croatia cannot be reduced to market principles alone, as it is profoundly structurally impossible to minimize it to a commercial market system, especially in today's media crisis. As at a wider European level, certain media policy measures, which "possess the attributes to actively stimulate media owners to accommodate the democratic role that society expects from them" (Ministry of Culture, 2015a, 12), are necessary. One of the measures are incentives to produce content of the local community's interest by awarding public funds to co-finance their production. It is about income through various types of grants and donations, and their great importance is evident from data from the survey of local TV broadcasters in Croatia in 2015, where they account for slightly less than a quarter of all revenues (AEM, 2015, 6). Namely, local and regional radio and television broadcasters (profit and non-profit service providers), along with providers of electronic publications and non-profit producers of public interest audiovisual and

[6] Data available on the CACA’s web page, in the CACA Media AdEx media expenditures, http://hura.hr/istrazivanja/medijska-potrosnja-u-hr/ (accessed 9 March 2018)

[7] Data available on the Croatian Bureau of Statistics web page, in the Radio and television reports, https://www.dzs.hr/Hrv_Eng/publication/2016/08-03-03_01_2016.htm (accessed 1 March 2018)

radio programs under the Electronic Media Act (*Official Gazette* 94/13), are eligible to use financial resources awarded by the AEM through the Fund for the Promotion of Pluralism and Diversity of Electronic Media (hereinafter referred to as the Fund). The Fund, already a traditional media funding tool in Croatia, has at its disposal 3 % of the public radio-television broadcasting fee in order to finance radio and television production of content of special public interest and, mostly, of local character (Živković, 2016, 9), along with the criteria of innovativeness and interest for local and regional cultural development. The importance of the Fund for local media is unquestionable, which was indicated in the 2014 research (Šalinović et al.) regarding the financial sustainability of media production directed at the public interest. Regardless of the share of co-funding by the Fund in the broadcasters' total income, it is a stable source of income, which in the context of economic stagnation and steadily declining media revenues is extremely important for retention of the number of employees and for long-term sustainability of local media activities (Šalinović et al., 2014, 12). Although the mentioned research encompassed only five local media in Eastern Croatia, the results can be used as indicators of a certain trend in local media funding. For example, the Fund has a significantly greater impact on financial sustainability of local TV stations compared to radio broadcasters where, due to a continuous decrease in their revenues originating from commercial activity (primarily advertising), the Fund's significance increases each year (Šalinović et al., 2014, 25). A slight growth of funds allocated through the Fund over a five-year period, as shown in Table 3 (the total allocated funds for all local and regional TV and radio broadcasters) contributes to the local media's recovery trend, albeit in "tiny increments". Accordingly, there is an increase in the share of allocated funds over the years for local radio and television broadcasters in Eastern Croatia, as shown in Table 4. However, it should be clarified that, although the available data for 2016 indicate that local radio broadcasters in Eastern Croatia received significantly less funding than ever before (0.06 million HRK), there is instead a lack of detailed information for individual media, considering the AEM launched its first two-year call for funding in 2015/2016, wherein certain media received funds in 2015, and others in 2016. Also, a detailed list of the funds requested and allocated was found in Annex III of the Report to the Croatian Parliament on the Work of the Electronic Media Council and the Agency for Electronic Media for each year, which is not attached to the 2016 Report. Although the correspondence (in the possession of the authors) indicate the distribution according to particular media, detailed information was only provided for the television broadcasters and for two radio broadcasters in the analyzed region. Bearing in mind the incomplete data and considering the trend of increasing funds allocated by the Fund, there must also be an increase in the financial resources of local media in Eastern Croatia in 2016. However, in the total subsidies of local media, the highest share aside from aid from the Fund (state aid) comes from support from local self-governments, and in particular financial support from cities (AEM, 2015, 6). In this segment of local media funding, the transparency of fund allocation "fails the test" as demonstrated in the Information Commissioner's study on transparency and openness in local and regional self-government (2017, 18), and a separate study of one of the counties analyzed in this paper, the Požega-Slavonia County. It was proven that local public authorities are the weakest in financial transparency, with the lowest level of public data disclosure belongs in the category of donations, sponsorships and other aid (2017, 18). The analysis of the local TV broadcasters market points to "certain accounting practices of television broadcasters at the local level" whereby "available figures are underestimated in financial statements" because the Financial Agency's data on the structure of local TV broadcasters' revenue does not match the category of aids in the Fund's data, or the figures do not afford a clear insight into revenues across all similar bases (AEM, 2015, 27).

Table 3 *Fund resources to regional and local TV and radio broadcasters (in millions of HRK)*

	2011	2012	2013	2014	2015	2016
Television broadcasters	12,69	19,81	15,27	15,05	14,96	15,12
Radio broadcasters	16,24	16,41	15,80	14,91	15,06	15,06
TOTAL	28,93	36,22	31,07	29,96	30,02	30,18

Source: The Electronic Media Council and Agency for Electronic Media annual reports to the Croatian Parliament for 2012, 2013, 2014, 2015 and 2016[8]

Table 4 *Fund resources to regional and local TV and radio broadcasters in Eastern Croatia (in millions of HRK)*

	2012	2013	2014	2015	2016
Television broadcasters	3,78	2,64	3,05	2,93	2,76
Radio broadcasters	3,96	3,16	3,10	3,45	0,06
TOTAL for local TV and radio broadcasters through Fund	**7,74**	**5,80**	**6,15**	**6,37**	**2,82**

Source: The Electronic Media Council and Agency for Electronic Media annual reports to the Croatian Parliament for 2012, 2013, 2014, 2015 and 2016

A possible explanation is that local TV broadcasters record part of the revenue from aid and donations as extraordinary income. While there is no complete data, since funds are not allocated only through direct tendering but also by direct contracting, such inflow from local authorities directly reflect the objectivity of reporting on their work, given the still low level of political culture (Kunac & Roller, 2015, 866). There is therefore no pluralistic approach, investigative journalism, critical writings or topics that do not correspond to owners' and local financial lobbies' interests (Partnership for Social Development, 2017). Much the same has been confirmed in a 2012 research on public budget funding of local media, carried out in co-operation with the Balkan Investigative Reporting Network from Belgrade. The amount of funds the media received every year from local authorities is unknown, because they are not always allocated directly, given that revenue from "monitoring local self-government work" is not recorded as subsidies or public aid, but as commercial revenue from advertising, hence, the scope of this practice cannot be ascertained (more in Paparella, 2017).

4. Conclusion

The analysis of the basic available economic indicators of local media businesses in Eastern Croatia confirmed the identified trends in development and business, as well as the specificities of particular types of media. Despite the crisis that has had a major impact on the operations of local and other media, certain trends of recovery are present (in advertising revenue, state aid, etc.). The media market expansion, the questionable models of funding electronic publications' content, and the so-called gray areas of transparency of local media funding by local authorities, remain a challenge for the functioning of local media and an area requiring further research.

REFERENCES

Agencija za elektroničke medije: ***Analiza poslovanja televizijskih nakladnika na lokalnoj razini u RH u 2014. i 2015. godini***; Ekonomski institut, in Zagreb, 2015;

[8] Data available on AEM's web page, in the Reports to the Croatian Parliament on the Work of the Electronic Media Council and the Agency for Electronic Media for 2016, 2015, 2014, 2013, 2012, https://www.e-mediji.hr/hr/pruzatelji-medijskih-usluga/izvjesca-o-radu-i-planovi/ (accessed 16 January 2018)

Agencija za zaštitu tržišnog natjecanja: ***Istraživanje tržišta tiska u 2015. i 2016***.; 2017 http://www.aztn.hr/ea/wp-content/uploads/2016/10/tr%C5%BEi%C5%A1te-tiska-2015.-i-2016..pdf (accessed on the 9th March 2018);

Bahtijarević-Šiber, Fikreta: ***Management ljudskih potencijala***; Golden marketing, in Zagreb, 1999;

Bilić, P. et. al.: ***Analiza tržišta elektroničkih publikacija***; Institut za razvoj i međunarodne odnose, in Zagreb, 2017;

Deloitte: ***The economic contribution of advertising in Europe. A report for the World Federation of Advertisers***; 2017; http://hura.hr/wp-content/uploads/2017/02/wfa-report-economic-contribution-of-advertising-eu.pdf (accessed on the 9th March 2018);

Kunac, S., Roller, V.: ***Lokalni mediji i demokracija u Hrvatskoj: neiskorišteni potencijal***; In Medias Res, Vol.4, No.6, pp.860-880, 2015;

McChesney, R., Nicols, J.: ***The Death and Life of American Journalism: The Media Revolution that Will Begin the World Again***; Nation Books, in Philadelphia, 2010;

Ministarstvo financija: ***Godišnje izvješće o državnim potporama za 2015. godinu***; in Zagreb, 2017; http://www.mfin.hr/hr/godisnja-izvjesca-o-drzavnim-potporama (accessed on the 13th January 2018);

Ministarstvo kulture: ***Radni materijali za raspravu o medijskoj politici Republike Hrvatske 2015 – 2020. Radni materijal 2: Dimenzije krize medija***; in Zagreb, 2015a; http://www.min-kulture.hr/default.aspx?id=12069 (accessed on the 16th January 2018);

Ministarstvo kulture: ***Radni materijali za raspravu o medijskoj politici Republike Hrvatske 2015 – 2020. Radni materijal 3:Uzroci krize medija***; in Zagreb, 2015b; http://www.min-kulture.hr/default.aspx?id=12069 (accessed on the 16th January 2018);

Mučalo, M.: ***Community radio: razvoj i perspektive neprofitnih medija***; in: Car, V., Matović, M., Turčilo, L., ed.: Mediji i javni interes, Fakultet političkih znanosti and Hans-Seidel-Stiftung, in Zagreb, pp. 53-73, 2016;

Newman, N.: ***Journalism, media and technology trends and predictions 2017. Digital News Project 2017***; Reuters Institute, in University of Oxford, 2017;

Paparella, S.: ***(Ne)transparetno financiranje i (ne)ovisno novinarstvo***; in: Hrvatsko novinarsko društvo, 2017; http://www.hnd.hr/ne-transparentno-finciranje-i-ne-ovisno-novinarstvo (accessed on the 22nd March 2018);

Povjerenik za informiranje: ***Transparentnost i otvorenost u lokalnoj i područnoj (regionalnoj) samoupravi***; in Zagreb; 2017;

Pravilnik o Fondu za poticanje pluralizma i raznovrsnosti elektroničkih medija, Narodne novine, Nb. 51/12 and 79/12;

Skender, M.: ***Istina o financiranju medija: samo lani osam komercijalnih iz proračuna dobilo 9,9 milijuna kuna, više nego neprofitni u tri godine***, in: Forum.hr, 2014; http://www.forum.tm/vijesti/istina-o-financiranju-medija-samo-lani-osam-komercijalnih-iz-proracuna-dobilo-99-milijuna(accessed on the 4th March 2018);

Skender, M.: ***Tko dobiva koji dio kolača***; Novine, Vol. 1-3, pp.12-22, 2014;

Šalinović, A. et. al.: ***Analiza društvenog utjecaja Fonda za pluralizam i raznovrsnost elektroničkih medija***; Ipsos, in Zagreb, 2014;
Udruga Partnerstvo za društveni razvoj: ***Indeks klijentelizma u medijima 2017***; 2017; http://psd.hr/2017/12/15/indeks-klijentelizma-u-medijima-2017-najveci-problem-vlasnistvo-medija/ (accessed on the 5th March 2018).

Živković, M.: ***Alternativni modeli financiranja neovisnih medija. Tko će platiti novinarstvo?***; South East European Media Observatory, 2016;

Dr.sc. İbrahim Halil Ekşi, Associate Professor
Gaziantep University,
Department of Business Administration, Turkey
Phone: 00905322028386
E-mail address: eksihali@gmail.com

Dr.sc. Almir Alihodžić, Associate Professor
Faculty of Economics – University of Zenica
Department of Finance and Accounting
Zenica, 72000
Phone: 00387-61-337-698
E-mail address: almir.dr2@gmail.com

Dr.sc. Süleyman Serdar Karaca, Associate Professor
GaziosmanpaşaUniversity,
Department of Business Administration, Turkey
Phone:00905395135800
E-mail address: suleymanserdar.karaca@gop.edu.tr

THE EFFECT OF CREDITS OF FOREIGN BANKS ON REAL SECTOR FINANCING: EVIDENCE FROM SOME BALKAN COUNTRIES AND TURKEY

UTJECAJ KREDITIRANJA STRANIH BANAKA NA FINANCIRANJE REALNOG RASTA: EVIDENCIJA ODREĐENIH BALKANSKIH ZEMALJA I TURSKE

ABSTRACT

The effect and goal of this research is to put forward by the importance, credits given by foreign banks tothe real sector. For this aim we used two variables. One of these variables is share of loans given to real sector as dependent variable and the other is a foreign bank asset/total banking sector assets as independent variable. Analysis period of this study is 2007:Q1-2017Q4 and as quarterly. Variables are used as the Euro and its logarithm for all countries (Turkey, Crotia, Serbia and Bosnia Herzegovina).2009:Q1 and 2010:Q4 period is added crisis dummy as fixed regressors to observe the effect of global crisis. In Turkey the data was collected from Banking Regulation And Supervision Agency and Central Bank. And the other countries data collected from the Central Banks of countries. We examined Granger causality between the variables. As a result, there is no symmetric Granger causality between the two variables.

Key words: *real sector, foreign bank credit, Granger causality, ARDL test.*

SAŽETAK

Efekat kao i cilj ovog istraživanja je da se utvrdi značaj kreditiranja inozemnih banaka prema realnom sektoru privrede. Za datu svrhu su korištene dvije varijable. Jedna od razmatranih varijabli je učešće kredita datih realnom sektoru u svojstvu zavisne varijable, a druga promatrana varijabla kao neovisna varijabla je omjer aktive strane banke prema ukupnoj aktivi bankarskog sektora. Razdoblje analize ove studije obuhva prvi kvartal 2007 do četvrtog kvartala 2017. godine.

Varijable su izražene u eurima i kao logaritam za sve zemlje (Turska, Hrvatska, Srbija i Bosna i Hercegovina). Za period: 2009 q1 - 2010 q4 dodate su dummy varijable kao fiksni regresori uticaja globalne krize. Za Tursku su podaci prikupljeni sa oficijalnog sajta Agencije za regulaciju i nadzor banaka kao Centralne banke Turske. Podaci Hrvatske, Srbije i Bosne i Hercegovine su prikupljeni sa oficijalnih web sajtova Narodnih banaka Hrvatske i Srbije i Centralne banke Bosne i Hercegovine. Istraživanje smo sproveli primjenom Grendžerove uzročnosti između odabranih varijabli. Rezultati istraživanja su pokazali da ne postoji simetrična uzročnost između odabranih varijabli. .

Ključne riječi:*realni sektor, kreditiranje inozemnih banaka, grendžerova uzročnost, ARDL test*

1. Introduction

Financing is an essential part of firm operating.Without adequate access to financing, the staying power of the business and its potential for growth is jeopardized.Banks are almost the most important institutions on financial markets. The main operation of the banks is to allocate their savings to competitive firms, entrepreneurs, individuals and governments in order to enhance capital accumulation and profitability.

Banks´ loans are an important source of funding for borrowers (e.g., households and firms). Especially in emerging countries and transition countries, the banks are very important. Because in these countries, capital markets are not advanced. Therefore, one of the important external sources is bank loanin these countries. And the role of foreign banks is important. Because, it is not enough internal sources on these countries. The firms want to develop use bank loans.

Foreign banks entered the field in many CEECs (central and eastern European countries) in the second half of the 1990s. Similary,in Turkey, foreign banks entered on after 1980.

In this study, we investigate the effect of credits given by foreign banks to real sector firms financing in Turkey and some Balkan countries.Although there are a lot of paper about foreign banks, there are a few papers about both foreign banks and real sector.In addition to, ın literature, there are a few papers about observationed countries.

2. A Brief Overview of Literature

In the last two decades, The role and the share of foreign banks increase in developing countries in two directions. One of these is to increase cross-border loans to other banks and corporations. The second refers to the increasing domination in other countries. For example, during the period from 1995 to 2009, 560 foreign investments were made, which led to an increase in the share of foreign banks in the domestic banking system from 20% to 34% (Claessens and Neeltje, 2013). In some developing countries, today banks will constitute the structure of the entire financial system.According to Claessens et al. (2001), a distinction was made in the context of foreign bank's inflows to the efficiency of banking operations in the EME and industrialized countries. In EME, foreign banks have higher interest margins and profitability, while industrialized countries margins are significantly lower. Also, the study came to the conclusion that the significant presence of foreign banks is associated with a decrease in margins, profitability and total costs of domestic banks.

Banks in developing countries have little choice but to generate liquidity through short-term debt to finance illiquid projects in a low-quality investment environment. Therefore, the higher vulnerability of developing countries to the financial crisis is not the result of their large stock of short-term debt, but is the result of insolvency or low creditworthiness of investment entities in these countries (Diamond and Rajan, 2001). The poor countries assets do not have access to share investment and FDI inflows, but they can benefit from a debt inflow to fund illiquid investments, although they can potentially carry more risk. Short-term debt could serve as a useful compulsory instrument to strengthen macroeconomic policies, although debt increases vulnerability to external shocks.

According to the research Gelos and Roldos (2002), despite the increase in concentration after the entry of foreign banks to Mexico and Turkey for the period from 1994 to 1997, competition did not fall.

The results of the Giannetti and Ongena research (2007) found that for a number of Eastern European countries, sales growth at the company level and asset growth are in a positive correlation with participation and increased foreign loans especially for larger companies. According to Stein (2010) the International Monetary Fund believes that by the increase of foreign banks in the Western Balkan countries, a form of financial stability is created due to different privatization policies that have enabled attracting foreign bank capital.

There are several sources of literature that are based on the discovery of foreign-owned bank's behaviour. According to Allen et al., (2011), it has been established that foreign banks tend to diversify their business risks, affecting the increase in competition, and in this connection, and improving efficiency in business.

Claessens and Van Horen (2012) investigated the performance of foreign banks relative to domestic banks in 51 developed countries, and on emerging markets in the period from 1999 to 2006, calculating differences in characteristics of foreign and domestic banks. As a measure they were watching was a return on assets. They came to the conclusion that foreign banks work better when they are larger in size, when the country they receive has high incomes per capita, when the regulations in the country in which they come are relatively weak.

Results of research Bakker et al. (2013) point to the fact that European foreign-owned banks have recorded higher loan growth rates up to the pre-crisis period, when in 2008 the further growth of credit placements declined. This research was about the role of foreign banks, not domestic ones.

There are also some studies that have paid attention to the boundary approach in the context of the separation of the influence of pain and multinational banks and macroeconomic characteristics on credit and their role in the transmission of shock. Haas and van Lelyveld (2014) used data for the 48 largest multinational banking group where they came to the conclusion that their credit growth was twice as much slower than the domestic banks through the GFC, affecting increased instability.

Chen and Wu (2014) have come to the conclusion that banks in countries with stronger banking regulations are experiencing a small increase in credit growth during the crisis period. Observing from the standpoint of individual companies, according to Ongena et al. (2015), foreign banks in international borrowing increased their loans during the crisis period, rather than local banks that are financed only locally.

There are a lot of different paper about foreign bank in the literature in terms of profibility and efficiency of foreign banks (Alnaa et al., 2016; Sturm and Williams, 2008; Azam and Sıddıqui, 2012). On the other papers, it is investigated credit behaviours of foreign banks (Kane et al., 2013; Degryse et al., 2009; Brown and Haas, 2012; Serrano, 2016; Arena et al., 2007).

Arakelyan (2018) use bank-level data on 16 CESEE (Central, Eastern and Southeastern European) economies over 2005-2014 to assess the role of foreign banks in the region's credit Dynamics. He finds that host country macroeconomic fundamentals cease to play a significant role, while bank-level characteristics and in particular parent bank-level characteristics remain important,

Mamman and Hassim (2013) investigated the effect of credit to the private sector (CPS) on the real sector of Nigeria. They observationed there is a statistically significant impact of credit to private sector on the real sector of Nigeria,

Oni et al.(2014) investigated the impact of bank credit to output growth in the manufacturing and agricultural sub sectors of the economy over the period 1980-2010 ın Nigeria. Their results show that bank credit has significant impact on manufacturing output growth both in the short run and long run but not in the agricultural sub sector,

3. Data and Methodology

We implemented Time Series Analysis toinvestigate the effect of credits given by foreign banks on real sector.For thispurpose, we used two variables. One of these variables is share of loans given to real sector (RSL) as the dependent variable.This variable is often used (Baltacı, 2011; Oluitan, 2009; Hassan, 2005)ın lıteratire. And the other variable is the ratio of foreign bank assets / total banking sector assets (FBA) as the independent variable.On paper ın related to foreign banking are seeing this variable (Clarke et al., 2001; Brown et al., 2009; Baltacı, 2011).Analysis period of this study is 2007:Q1-2017Q4 and as quarterly. Variables are used as Euro and its logaritm for all countries (Turkey, Crotia, Serbia and Bosnia Herzegovina). 2009:Q1 and 2010:Q4 period is added crisis dummy as fixed regressors to observe the effect of global crisis.In Turkey the data was collected from Banking Regulation And Supervision Agency and Central Bank. And the other countries data collected from the Central Banks of countries.

3.1. Estimation Procedure

It is required in order to verify whether the variables under analysis are stationary or non-stationary. One of the principal problems with the time series data, there may be a unit root in the data and regression results of that data become spurious (Naseem, 2017). There are a number of unit root tests (KPSS, PP) available for removing non-stationarity problem in time series data. Testing for unit roots is the first step in time-series analysis as is the case of this study.
We use Augmented Dickey-Fuller for unit root test. After the unit root test, we adopted theautoregressive distributed lag (ARDL) to test the relationship between foreign bank assets and credits given by foreign banks to the real sector. After ARDL co-integration test, , we implemented Granger Causality test to test the direction of causality
ARDL is a single equation-based co-integration method developed by Pesaran, Shin(1998). Several advantages make this approach more preferable to its alternatives. Its first advantage is relatively simple and can be estimated by ordinary least-squares model. Its second advantage is bouncing endogeneity issues. Thirdly, it is possible to estimate short- and long-run coefficients simultaneously. Fourth, this approach is irrespective whether the regressors are I(0) or I(1) or both. Fifth is preferred to examine variables with a small sample of time series data.
One shortcoming of this approach is that ARDL does not account for the number of co-integrating relationships between the underlying variables and the issue of weak exogeneity (Hasanov and Huseynov: 2013:599).

3.2. Empirical Results

Descriptive statistic observations with, related to variables are in Table 1.

Table 1 *Descriptive Statistic*

Countries	Mean		Std. Dev.	
	RSL	**FBA**	**RSL**	**FBA**
Turkey	0.47	0.16	0.04	0.05
Crotia	0.47	0.16	0.04	0.05
Serbia	0.51	0.29	6.80	5.62
Bosnia	0.46	0.5	1.79	8.66

Source: the calculation made by the author's

As it is seen, credit to real sector firms are generally %50 for all countries.
Unit root test results are in Table 2.

__Table 2__ ADF Unit Root Results

Countries		Level		First Difference		Results
	Variable	Constant	With Trend	Constant	With Trend	
Turkey	LFBA	-0.925	-1.851	-6.030	-5.985	I (1)
	LRSL	-0.259	-3.151	-7.692	-7.712	I (1)
Crotia	LFBA	-5.352	-5.772	-	-	I (0)
	LRSL	-1.000	-2.226	-6.705	-6.663	I (1)
Serbia	LFBA	-1.422	-1.783	-6.112	-6.209	I (1)
	LRSL	-0.780	-1.808	-5.518	-5.449	I (1)
Bosnia	LFBA	-1.468	-0.644	-2.087	-3.852	I (1)
	LRSL	-0.793	-1.702	-5.046	-5.266	I (1)

Source: the calculation made by the author's

According to this table, except for LFBA for Crotia, all of the other variables are integrated at first difference.Because, all variables have not same integrated degree. We can apply the Autoregressive distributed lag techniques (ARDL) fordetermine exsisting ofcointegration between variables. ARDL results are on Table 3.

__Table 3__ ARDL Bound Test Results

Countries	Model	F-Stat.	Critical Value %1	Critical Value %5
Turkey	(1, 2)	2.603874	I (0) = 4.94	I (0) = 3.62
			I (1) = 5.58	I (1) = 4.16
Crotia	(1, 0)	0.983384	I (0) = 4.94	I (0) = 3.62
			I (1) = 5.58	I (1) = 4.16
Serbia	(1, 4)	0.605108	I (0) = 4.94	I (0) = 3.62
			I (1) = 5.58	I (1) = 4.16
Bosnia	(1, 0)	2.523948	I (0) = 4.94	I (0) = 3.62
			I (1) = 5.58	I (1) = 4.16

Source: the calculation made by the author's

Schwarz Bayesian Criteria used in order to determine the appropriate lag structure of ARDL procedure. Appropriate ARDL Model for Turkey is (1, 2) and F-statistic is 2.60 which not exceed the upper bound critical value at %5 level. And, for Crotia is is (1, 0) and F-statistic is 0.98 which not exceed upper bound critical value at %5 level. For Serbia is (1, 4) and F-statistic is 0.60 which not exceed upper bound critical value at %5 level. Similary, for Bosnia is (1, 0) and F-statistic is 2.52 which not exceed upper bound critical value at %5 level.Consequently, the null hypothesis is not rejected thus it is not concluded that the long-run relationship exists among variables.
Since ARDL Bound test can not find co-integration between variables, we decided to test causality between variables. For this aim, we implemented Granger causality test. The result of Granger causality is in Table 4.

__Table 4__ Granger Causality Results

Countries		F-Statistic	Prob.
Turkey	DLRSL does not Granger Cause DLFBA	0.31745	0.8981
	DLFBA does not Granger Cause DLRSL	1.1116	0.3776
Crotia	DLRSL does not Granger Cause DLFBA	0.36201	0.8699
	DLFBA does not Granger Cause DLRSL	0.25309	0.9345

Countries		F-Statistic	Prob.
Serbia	DLRSL does not Granger Cause DLFBA	1.88109	0.1309
	DLFBA does not Granger Cause DLRSL	1.78082	0.1506
Bosnia	DLRSL does not Granger Cause DLFBA	1.56146	0.2046
	DLFBA does not Granger Cause DLRSL	0.69588	0.6311

Source: the calculation made by the author's

Table 5 reports the Granger causality test results between the share of loans given to real sector (RSL) and a ratio of foreign bank assets/total banking sector assets (FBA). It is evident that there is no Granger causality between the two variables.

4. Conclusion

Real sector is an important sector for the development of a country. It is also the locomotive of growing. Firms provide financing for investment through equity and borrowing. One way of borrowing credits from banks. We investigate the effect of credis given by foreign banks to thereal sector.Therefore, we searched relationship between two variables which the share of loans given to real sector as dependent variable and the ratio of foreign bank assets/total banking sector assets as independent variable.

As a result of the analyses, we cannot find that there is no Granger causality between the two variables. It can be said that the relationship between two variables can investigate by increasing the number of variables, periods and countries. It can analysis relationship between variables by using different methods.

REFERENCES

Allen, F., Thorsten, Beck., Elena, C., Philip, R. L., Dirk, Sch., Wolf, W. (2011). "Cross-Border Banking in Europe: Implications for Financial Stability and Macroeconomic Policies," Centre for Economic Policy Research.

Alnaa, S. E., Adongo, J. J. M. (2016). Comparative Analysis of Profibility Of Local And Foreign Bank sın Ghana, *Asian Economic and Financial Review,* 6(5), pp. 238-246.

Arakelyan, M. (2018). Foreign Banks and Credit Dynamics in CESEE, IMF Working Paper WP/18/3

Arena, M., Reinhart, C., Vázquez, F. (2007). The Lending Channel in Emerging Economies: Are Foreign Banks Different? *IMF Working Paper, WP/07/48*

Azam, M., Sıddquı, S. (2012). Domestic and Foreign Banks' Profitability: Differences and Their Determinants, *International Journal of Economics and Financial Issues* Vol. 2, No. 1, pp.33-40.

Bakker, B., Christoph, K., Gregorio, I., Jerome, V., Li, Z., Jessie, Y. (2013). "Financing Future Growth: The Evolving Role of the Banking System in CESEE", International Monetary Fund.

Baltacı, N. (2011). Foreign Banks Entry Into The Market Impact Of Credit Allocation: A Comperative Analysis After 1995, University of Dumlupınar, Doktoral Thesis

Brown, M., Haas, R. De. (2012). Foreign banks and foreign currency lending in emerging Europe, Economic Policy, pp. 57-98.

Brown, M., Tullio, J., Paganob, M. (2009). Information Sharing And Credit: Firm-Level Evidence From Transition Countries, *Journal Finans Intermediation*, Cilt:18, pp. 151–172.

Chen, G., Wu, Y. (2014). "Bank Ownership and Credit Growth in Emerging Markets During and After the 2008 – 09 Financial Crisis — A Cross-Regional Comparison". IMF Working Paper, 14/171, (Available at: https://www.imf.org/en/Publications/WP/Issues/2018/01/05/Foreign-Banks-and-Credit-Dynamics-in-CESEE-45538).

Claessens, S., Asli, D.K., Harry, H. (2001). "How Does Foreign Presence Affect Domestic Banking Markets?" Journal of Banking and Finance, No. 25, pp. 891-911.

Claessens, S., Neeltje, H. (2013). "Foreign Banks: Trends and Impact," Journal of Money, Credit and Banking, forthcoming.

Claessens, S., Neeltje, V.H. (2012). "Being a Foreigner among Domestic Banks: Asset or Liability?" Journal of Banking and Finance, Vol. 36, pp. 1276-1290.

Clarke , George, Robert, CULL and Maria, Soledad Martinez Peria (2001). Does Foreign Bank Penetration Reduce Access To Credit In Developing Countries? Evidence From Asking Borrowers, Policy Research Working Paper: 2716 Development Research Group, The World Bank, November,

de Haas, R., van Lelyveld, I. (2014). "Multinational banks and the global financial crisis: Weathering the perfect storm"? Journal of Money, Credit and Banking, Vol. 46, No. 1, pp.333– 364 (Available at: https://www.imf.org/en/Publications/WP/Issues/2018/01/05/Foreign-Banks-and-Credit-Dynamics-in-CESEE-45538)

Degryse, H., Havrylchyk, O., Jurzyk, E., Kozak, S. (2009). Foreign Bank Entry and Credit Allocation in Emerging Markets, IMF Working Paper WP/09/270.

Diamond, D., Rajan, R. (2001). Banks, Short Term Debt and Financial Crises: Theory, Policy Implications and Applications, Proceeding of Carnegie Rochester Series on Public Policy, No.54.

Gelos, G., Roldos, J. (2002). "Consolidation and market structure in emerging market banking systems." IMF, Washington, D.C. United States.

Giannetti, M., Ongena, S. (2007). "Financial Integration and Firm Performance: Evidence from Foreign Bank Entry in Emerging Markets", Review of Finance, forthcoming.

Hasanov, F., Huseynov, F. (2013). Bank credits and non-oil economic growth: Evidence from Azerbaijan. *International Review of Economics & Finance*, *27*, pp. 597-610.

Hassan M. Kabir, (2005). Financial Liberalization and Foreign Bank Entry on İslamic Banking Performance, 12. ERF Conference Paper

Kane, J., A., Caballero, J., A., Lim, J. J. (2013). Foreign Bank Behavior During Financial Crises The World Bank Policy Research Working Paper 6590

Mamman, A., Hashim, Y. A. (2013). Impact of private sector credit on the real sector of Nigeria, International Journal of Business and Social Research, 3,5, pp.105-116.

Naseem, B. (2017). The Impact of Demand Management Policies On Domestic and Foreign Direct Investment in Case of Pakistan: A Time Series Analysis. *Bulletin of Business and Economics*, 6(4), pp. 175-184.

Oluıtan, R. (2009). Bank Credit And Economic Growth: The Nigerian Experience, (Available at: http://www.csae.ox.ac.uk/conferences/2009-EDiA/papers/094Oluitan. pdf, (Accessed on December,25, 2010).

Ongena, S., Peydro, J.L., van H. N. (2015), "Shocks Abroad, Pain at Home? Bank-FirmLevel Evidence on the International Transmission of Financial Shocks". DNB Working Papers 385, Vol.63,No.4, pp.698–750. (Available at: https://www.imf.org/en/Publications/WP/Issues/2018/01/05/Foreign-Banks-and-Credit-Dynamics-in-CESEE-45538).

Oluwafemi, O., Enisan, A. O., Oladepo, E. D. (2014). Impact of Bank Credit On Real Sector: Evidence From Nigeria, *Global Journal of Business Research*, V. 8, N.3.

Pesaran, M. H., Shin, Y. (1998): An autoregressive distributed-lag modelling approach to cointegration analysis. *Econometric Society Monographs*, *31:* 371-413., pp.1-37

Serrano, A. (2016). Foreign Banks and Credit ın Mexico, Global Finance Journal, 30, pp. 77-93.

Stein, H. (2010). "Financial liberalisation, institutional transformation and credit allocation in developing countries: the World Bank and the internationalisation of banking". *Cambridge Journal of Economics*, Vol.34, No.2, pp. 257-273.
Sturm, J. E.,Williams, B. (2008). Charecteristics Determining The Efficiency of Foreign Banks ın Austuralia, *Journal of Banking & Finance* 32, pp. 2346–2360.

Renata Ermacora, struc. spec. oec.
University of Applied Sciences Baltazar Zaprešić
Vladimira Novaka 23, 10290 Zaprešić
Phone: 00385 91 6120033
E-mail address: remacora@bak.hr

ACCOUNTING APPROACH *VERSUS* ECONOMIC APPROACH IN DETERMINING PROFIT OF SMALL FAMILY DAIRY COMPANY

RAČUNOVODSTVENI PRISTUP VERSUS EKONOMSKI PRISTUP U UTVRĐIVANJU PROFITA MALE OBITELJSKE MLJEKARE

ABSTRACT

In order to analyze the usage of the success potential of a company, different approaches and associated models are used with the aim to determine the level of economic and financial success or failure of their business operations. One of the most common measures in determining the level of business operations success is certainly achieving a satisfactory level of profit (profitability), since it represents one of fundamental managerial problems. Equally, the achieved profit still represents a dominant economic category used by external and internal users in the decision-making process, especially when it comes to SMEs. However, it is justified to expect that the level of achieved profit determined by using the model of accounting profit is different from its level determined by using the model of economic profit. While the model of accounting profit is ex-post oriented and does not include the cost of capital, the model of economic profit is ex-ante oriented and includes the cost of capital. Accordingly, the aim of this paper is to analyze the achieved profit of a small family company within the dairy industry in the Croatian Zagorje area by implementing both the model of accounting profit and the model of economic profit in order to define their specific differences and to perceive their value for external and internal users. For the purposes of this paper, scientific and professional references, financial statements and available additional information were analyzed. Based on the results obtained from the qualitative and quantitative analyses of available information conducted and by using methods of deduction and induction, analysis and synthesis and comparisons, it can be concluded that the model of economic profit is justifiably put in the superior position in relation to the model of accounting profit. Also, the research results showed that there was a need for caution in using such information since it can undoubtedly have an influence on determining future success potential of a company.

Key words: *model of accounting profit, model of economic profit, SMEs, Croatian Zagorje.*

SAŽETAK

U analizi se korištenja potencijala uspjeha poduzeća koriste različiti pristupi i pripadajući modeli kako bi se iskazala razina ekonomske i financijske uspješnosti ili pak neuspješnosti u njihovom poslovanju. Jedna je od uobičajenih mjera iskazivanja razine uspješnosti poslovanja poduzeća svakako ostvarivanje zadovoljavajuće razine profita (profitabilnosti), pa otuda upravljanje profitom predstavlja jedan od temeljnih upravljačkih problema poduzeća. Isto tako, utvrđeni profit predstavlja (još uvijek) dominantnu ekonomsku kategoriju kojom se koriste eksterni i interni korisnici prilikom donošenja svojih poslovnih i financijskih odluka, poglavito kad se radi o malim i srednjim poduzećima. Međutim, opravdano je očekivati kako se razina ostvarenog profita utvrđena modelom računovodstvenog profita razlikuje od razine ostvarenog profita utvrđenog na podlozi *modela ekonomskog profita. Naime, dok je model računovodstvenog profita ex-post orijentiran i ne uključuje trošak vlastitog kapitala, model ekonomskog profita je ex-ante orijentiran i uključuje trošak vlastitog kapitala. U tom smislu, cilj je ovog rada analizirati ostvareni profit malog obiteljskog poduzeću u okviru mljekarske djelatnosti na području Hrvatskog zagorja kroz primjenu modela računovodstvenog profita i modela ekonomskog profita kako bi se ne samo utvrdile njihove specifične razlike, već i sagledala njihova upotrebna vrijednost za eksterne i interne korisnike. U svrhu izrade rada analizirana je znanstvena i stručna literatura, financijski izvještaji odabranog poduzeća, te dodatne dostupne informacije iz poduzeća. Na temelju dobivenih rezultata provedene kvalitativne i kvantitativne analize dostupnih podataka, koristeći se metodama dedukcije i indukcije, analizom i sintezom te komparacijom, može se zaključiti kako je model ekonomskog profita opravdano staviti u superiorniji položaj spram modela računovodstvenog profita. Također, rezultati istraživanja provedene komparativne analize ukazuju kako je potreban oprez prilikom korištenja informacija jer one nedvojbeno mogu utjecati na određivanje budućeg potencijala uspjeha poduzeća.*

Ključne riječi: *model računovodstvenog profita, model ekonomskog profita, SMEs, Hrvatsko zagorje.*

1. Introdution

A company (firm) as an economic phenomenon as well as its objective of business has been a constant focus of research and studying of numerous scholars regardless of which specific field they belong to. When it comes to the objective of a company's business, it is surely necessary to understand the circumstances under which it changes over time. Namely, the genesis of development regarding the objective of a company's business should be observed in the context of the development of the theory of firm (Gašparović, 1996). There is no doubt that the management of a company is responsible for achieving a company's business objective. Regardless of the size of a company, be it small/medium-sized (SMEs) or multinational (MNEs), the responsibility of a company's management is dominantly directed towards processes of managing and decision-making related to the company's business. Thereby, based on a holistic approach in understanding a company's business, a company is understood as a potential which exists and acts within a contemporary environment. Consequently, the responsibility of a company's management is directed towards satisfying the best interests of a company's owner and stakeholders who are directly or indirectly connected with the company's business (Santini, 2013). Today's processes of managing and decision-making are increasingly complex and demanding, hence the quality of performance of management and decision-making processes has a direct influence on achieving a company's business objective. Therefore, in order to be able to express the quality of performance regarding the company's business objective, there is a need for an adequate and objective measurement, which would not only be able to monitor and direct the performance quality with regard to the company's business objective but also to assess performance quality with regard to the management and decision-making processes. In other words, the aim is to determine whether or not the appointed management of a company makes optimal business and financial decisions in given conditions in order to satisfy the utility functions of all the interested groups directly or indirectly connected to a company.

In order to analyze the use of the success potential of a company, different approaches and associated models are used with the aim to determine the level of economic and financial success or failure of their business operations. One of the most common measures in determining the level of success of business operations is certainly the achieving a satisfactory level of profit (profitability), since it represents one of the fundamental managerial problems (Koutsoyiannis, 1997). Equally, the generated profit still represents a dominant economic category used by external and internal users in the decision-making process, especially when it comes to SMEs. Hence, the following fundamental question arises: *In which way can the quality of performance of management and decision-making processes i.e. the success of performance regarding the company's business objective in the form of generated profit be adequately and objectively measured?* The company's business objective in the form of generated profit can be measured by using the standard model of accounting profit on the one hand, and by using the model of economic profit on the other. While the model of accounting profit is *ex post*-oriented and does not include the cost of capital, the model of economic profit is *ex ante*-oriented and includes the cost of capital. Hence, the level of achieved accounting profit which is determined on the basis of the model of accounting profit will differ from the level of achieved economic profit which is determined on the basis of the model of economic profit. Accordingly, the aim of this paper is to analyze the generated profit of a small family company within the dairy industry in the Croatian Zagorje area by implementing both the model of accounting profit and the model of economic profit in order to define their specific differences and to perceive their value for external and internal users. Therefore, this paper consists of two parts. In the first part of this paper, based on a comparative analysis, the important fundamental determinants of the accounting approach and the economic approach will be presented in order to determine the specific differences between the model of accounting profit and the model of economic profit. In the second part of this paper, the authentic case of a small family dairy company will demonstrate the real usage value of particular models in order to perceive the level of their quality in providing information to external and internal users needed for making business and financial decisions.

2. Accounting Profit *Versus* Economic profit

Different approaches in shaping the objective of a company's business have an influence on creating different models needed to perceive the qualitative and quantitative level of achieved economic and financial success regarding their business operations. They are still dominantly orientated to the traditional (accounting) concepts in determining the success of a company's business as well as to information within the accounting – information system of a company (Žager, 2008). However, the growing structural and process complexity and the dynamics of a company's business within a contemporary environment create a need for the development of modern (market-oriented) concepts in determining the success of a company's business which are not dominantly oriented towards information within the accounting – information system of a company (Copland, 1996).

While the traditional (accounting) concept of valuation usually implies the level of success of the company's business in the form of accounting profit, the modern (market-oriented) concept of valuation implies the level of success of the company's business in the form of economic profit. Logically, these concepts of indicating a company's profit (profitability), however, have their own different use of value for external and internal users. Hence, first the way of determining the accounting profit based on the model of accounting profit will be presented and then the economic profit based on the model of economic profit. The aim is to determine their specific differences and to demonstrate the real usage value of these particular models for external and internal users using a case study of a small family dairy company.

2.1. The Accounting Profit Model

The accounting profit is oriented to *ex post* events and occurs as a result of all business, accounting recorded events in accordance with the accounting standards and laws[1]. Accordingly, the accounting standards and laws completely determine the ways of acknowledgment and records

[1] IFRS - International Financial Reporting Standards, HSFI - Croatian Financial Reporting Standards, Law of Accounting, Law of Audit; Ordinance on the structure and content of annual financial statements and etc.

regarding all items in the fundamental financial statements of a company. The basis for forming the model of accounting profit certainly is the income statement for the specific period of time which indicates the level of achieved success of a company's business in the form of its determined financial result. The reported financial result represents the generated accounting profit of a company in the form of reported net income. The way of determining it is regulated by law.

In practice, the so called *pro forma* financial statements are often prepared for the purpose of business and financial decision-making. They are based on the accounting approach and they are often modified and presented in the form of so called managerial income statements with an aim to monitor the company's business success according to the structural components in generating profit. Hence, the main purpose of the managerial income statement is to determine the level of generated profit from the company's operations in order to perceive the economic effect (efficiency) of its business operations. This way, this report can be considered as the model of accounting profit. The way of determining the accounting profit is illustrated by Table 1.

***Table 1** Determining the model of accounting profit*

Sales
+ Other revenues from operations
= Total revenues from operations
- Costs of sold products
- Other expenses from operations
= EBIT (Earnings before interest and taxes) or Operating profit before interest and taxes
- Interest
= Operating profit after interest and before taxes
- Income tax
= Operating profit after interest and taxes or Net operating profit or Net operating income

Source: by the author

The presented model of accounting profit points to the generated profit at the level of operating profit before interest and taxes (Earnings Before Interest and Taxes – *EBIT)* and at the level of generated operating profit after interest and taxes i.e. net operating income (net operating profit). It should be noted that the tax deduction, which a company can achieve by law, are not included in the model of accounting profit. Equally, expenses and costs related to interest and taxes represent explicit costs of a company which are recorded in the accounting records.

The *EBIT* and operating profit after interest and taxes are often used as a base for determining financial ratios of profitability with an aim to determine the success of a company's business. Accordingly, financial ratios of profitability represent the relative level of generated accounting profit. The usual financial ratios of profitability include: (1) Return on Assets - *ROA* and (2) Return on Equity - *ROE*. While *ROA* shows a relation between *EBIT* and total company's assets and indicates the strength of a company in creating new value on the basis of total assets, *ROE* shows a relation between net operating profit (net income) and invested equity and indicates the profit that belongs to the owners of a company in the form of the rate of return on their invested equity. These ratios can be calculated as follows:

$$ROA\ (\%) = \frac{\text{Earnings before Interest and Tax (EBIT)}}{\text{Assets}} \times 100$$

and

$$ROE\ (\%) = \frac{\text{Net Income}}{\text{Equity}} \times 100 .$$

2.2. The Economic Profit Model

Economic profit is based on the market-oriented concept of a company's valuation within the Shareholder Value concept of managing company's growth value and it is also derived from the concept of residual income. Economic profit refers to the residual income as a difference between net operating profit after taxes - *NOPAT* and the total cost of capital. In other words, besides the explicit costs of a company, economic profit includes the implicit costs of a company that occur as a result of equity financing. When it comes to the cost of equity financing, it is determined on the basis of the opportunity cost of investment. In order for economic profit to be representative, it is necessary to make certain adjustments in the accounting records in the fundamental financial statements i.e. to align the accounting records in order to avoid an influence of implemented accounting principles, rules and methods (Harrington, 1993). Economic profit can be calculated on the basis of the model of economic profit as follows:

$$\begin{matrix}\textit{Economic}\\ \textit{Profit}\end{matrix} = \begin{matrix}\textit{Net Operating Profit}\\ \textit{after Tax (NOPAT)}\end{matrix} - \begin{matrix}\textit{Total Invested}\\ \textit{Capital (IC)}\end{matrix} \; x \; \begin{matrix}\textit{Weighted Average Cost}\\ \textit{of Capital (WACC)}\end{matrix},$$

or

$$\begin{matrix}\textit{Economic}\\ \textit{Profit}\end{matrix} = \begin{matrix}\textit{Total Invested}\\ \textit{Capital (IC)}\end{matrix} \; x \left(\begin{matrix}\textit{Return on Total}\\ \textit{Invested Capital (ROIC)}\end{matrix} - \begin{matrix}\textit{Weighted Average Cost}\\ \textit{of Capital (WACC)}\end{matrix} \right).$$

The presented models of economic profit include three structural elements: (1) net operating profit after taxes - *NOPAT* (according to the first form of the model of economic profit), i.e. return on invested capital - *ROIC* (according to the second form of the model of economic profit), (2) total invested capital – *IC* and (3) weighted average cost of capital - *WACC*. The way of determining the first structural component related to the model of economic profit - *NOPAT* is illustrated in Table 2.

***Table 2** Determining the net operating profit after taxes*

Total income from operations
- Costs of sold products
= Gross profit
- Other expenses from operations
= Operating profit
- Income taxes
= Net operating profit after taxes

Source: by the author

NOPAT represents only the created value from a company's operation and does not take costs of interest into account. The reported *NOPAT* can be also determined in the relative amount as a financial ratio of profitability based on the concept of residual income as follows:

$$\textit{NOPAT (\%)} = \frac{\textit{Net Operating Profit after Tax}}{\textit{Sales}} \; x \; 100.$$

The way of determining the second structural component related to the model of economic profit - total invested capital is illustrated in Table 3.

***Table 3** Determining the total invested capital*

Long-term debt
+ Equity
+ Future capital expenditures
= Total invested capital

Source: by the author

Once the *NOPAT* and the total invested capital are determined, it is possible to determine the rate of return on total invested capital - *ROIC* as the first structural component related to the model of economic profit (the second form of the model of economic profit) as follows:

$$\textit{ROIC (\%)} = \frac{\textit{Net Operating Profit after Tax}}{\textit{Total Invested Capital}} \times 100 .$$

The third structural component related to the model of economic profit - *WACC* can be determined as follows:

$$\textit{WACC (\%)} = \frac{\textit{Long-term Debt}}{\textit{Total Invested Capital}} \times \textit{Cost of Debt Financing} \times \left(1 - \textit{Income Tax Rate}\right) + \frac{\textit{Equity}}{\textit{Total Invested Capital}} \times \textit{Cost of Equity Financing}$$

The generated economic profit in the absolute amount also can be determined as a relative measure of generated economic profit. The usual financial ratios of profitability related to the economic profit which are derived from the concept of residual income include as follows:

$$\textit{Economic Profit (\%)} = \frac{\textit{Economic Profit}}{\textit{Sales}} \times 100 ,$$

or

$$\textit{Economic Profit (\%)} = \frac{\textit{Economic Profit}}{\textit{Total Invested Capital}} \times 100 .$$

2.3. Specific Differences Between the Model of Accounting profit and the model of economic profit

On the basis of the presented models of accounting and economic profit, their specific differences can be considered. Primarily, while the model of accounting profit is *ex post* oriented, the model of economic profit implies *ex ante* events, since it includes the cost of equity financing in the form of opportunity cost of investment. Secondly, the determined accounting profit is the result of accounting records in accordance with the accounting standards and laws i.e. it is the result of a company's implemented accounting methods. On the other hand, the determined economic profit is the result of the created fair value of company's economic effect (efficiency), since the economic profit includes the adjusted accounting records in order to avoid the influence of accounting methods implemented. Finally, the information about the generated accounting profit is available to external and internal users as opposed to the information about to the generated economic profit of a company.

The accounting profit includes costs related to only one part of invested capital which refers to debt financing - interest paid. Accordingly, it includes only explicit costs that are recorded in the accounting records. However, it cannot be ignored that equity financing is not free of charge, so the owners of a company require an adequate rate of return on their capital invested in a company. This way, an important specific difference or shortcoming regarding the model of accounting profit can be found in the fact that it does not include costs related to equity financing in the form of cost of equity. Hence, the model of economic profit differs from the model of accounting profit since it includes the cost of equity financing in the form of the opportunity cost of investment.

3. Comparative Analysis of Implemented Models of Accounting and Economic Profit: Case Study of a Small Dairy Company

Based on the determined specific differences between the model of accounting profit and the model of economic profit and in order to define their usage value for external and internal users, a small family company within dairy industry has been selected for a case study. The small family dairy company from Croatian Zagorje region was founded in 2001. This company has only one owner, *150* employees and two managers. Its production capacity amounts to *20,000 liters* of milk per day, which is distributed throughout Central Croatia *via* chain stores and its own retail locations. For the purpose of determining the level of economic and financial success in the form of generated profit by applying the model of accounting profit and the model of economic profit, the following relevant data from the dairy company were collected: (1) the balance sheet, December 31, 2016, (2) the income statement for 2016, (3) the audit report for 2016 and (4) internal reports for 2016. Also, other relevant data were collected in order to determine the cost of equity.

3.1. Determining Generated Profit by Applying the Model of Accounting Profit

The accounting profit of the dairy company has been determined in accordance with the previously determined model of accounting profit (Chapter 2.2). Table 4 shows the way of determining the accounting profit in the form of profit after interest and taxes (net operating income or net operating profit) and in the form of the usual traditional financial ratios of profitability – *ROA* and *ROE*.

Table 4 *Determining the Accounting Profit for 2016 (in HRK and %)*

Items	*Amount*	*Items*	*Amount*
Total assets	*27,674,607*	Earnings before interest and taxes	*1,615,253*
Capital	*16,828,541*	Interest	*86,088*
Sales revenue	*52,838,632*	Earnings after interest and before tax	*1,529,165*
Other operating income	*1,821,272*	Taxes	*305,833*
Total operating income	*54,659,904*	Earnings after interest and taxes	*1,223,332*
Costs of sold products	*37,030,585*	ROA (%)	*5.84*
Other operating expenses	*16,014,066*	ROE (%)	*7.27*

Source: According to the author, based on the data obtained from the Accounting department of the company

As Table 4 shows, by applying the model of accounting profit, the dairy company generates a positive financial result, since the generated accounting profit (earnings after interest and taxes from operations or business activities) amounts to *HRK 1,223,332*. Equally, the usual financial ratios of profitability determined - *ROA* and *ROE* point to a positive financial result according to the profitability criteria. While *ROA* amounts to *5.84%,* which indicates that the dairy company uses its total assets to generate *5.84%* of profitability, *ROE* amounts to *7.27%,* which indicates that its owner returns *7.27%* on his invested capital.

3.2. Determining Generated Profit by Applying the Model of Economic Profit

The economic profit of the dairy company is determined in accordance with the previously determined model of economic profit (Chapter 2.3). Unlike the model of accounting profit, the model of economic profit requires that the cost of capital be determined by applying the *WACC* method. Based on the available data, the weighted average cost of capital of the dairy company amounts to *3.22%*. Thereby, in determining the structural component of debt financing (long-term debt) within the capital structure of the dairy company, the effective interest rate amounting to *2.48%* was used. Since the share of debt financing within the capital structure amounts to *17%*, the weighted average cost of debt financing after taxes amounts to *0.34%*. On the other hand, the Capital Asset Pricing Model - *CAPM* was used in determining the structural component of equity financing within the capital structure of the dairy company. Hence, the cost of equity financing amounts to *3.48%.* Since the share of equity financing within the capital structure amounts to *83%*, the weighted cost of equity financing amounts to *2.88%*[2]. Table 5 shows the way of determining

[2] In order to determine the cost of equity financing by applying CAPM, data related to the risk free rate and the market risk premium for the Republic of Croatia were used for the period of January, 2016 – December, 2016. These data were collected by applying the Svensson-Siegel method (available at http://www.basiszinskurve.de/basiszinssatz-gemaess-idw.html; Visited: March 15, 2018) based on the available European Central Bank (ECB) and the Deutsche Bundesbank for Europe data. Accordingly, the risk free rate amounts to *0.98%* and the market risk premium for the Republic of Croatia amounts to *2.50%* in the observed period. Of course, since the Croatian capital market is insufficiently developed and there is no available data about the level of systemic risk, in this case it will be assumed that the beta coefficient, as a measure of systemic risk, amounts to 1. In other words, the level of systemic risk does not have any

economic profit, as a difference between the net operating profit after taxes – *NOPAT* and the cost of capital – *WACC* and in the form of modern (market-oriented) financial ratios of profitability derived from the model of residual income.

Table 5 *Determining the Economic Profit for 2016* *(in HRK and %)*

Items	*Amount*	*Items*	*Amount*
Revenues from operations	*54,659,904*	Long-term debt	*3,469,420*
Costs of sold products	*37,030,585*	Equity capital	*16,828,541*
Gross profit	*17,629,319*	Total invested capital	*20,297,961*
Other operating expenses	*16,014,066*	Return on invested capital – ROIC (%)	*6.37*
Operating profit	*1,615,253*	Weighted average cost of capital – WACC (%)	*3.22*
Taxes	*323,051*	Economic Profit	*649,620*
Net operating profit after tax	*1,292,202*	Economic Profit / Sales (%)	*1.23*
NOPAT/ sales (%)	*2.45*	Economic profit / total invested capital (%)	*3.20*

Source: According to the author

As Table 5 shows, by applying the model of economic profit, the dairy company generates a positive financial result, since the generated economic profit, as a difference between the net operating profit after taxes – *NOPAT* and the cost of capital – *WACC,* amounts to *HRK 649.620*. Equally, the determined financial ratios of profitability derived from the model of residual income – economic profit/sales, economic profit/total invested capital and *NOPAT*/sales point to the positive financial result from the standpoint of profitability criteria. The economic profit/sales ratio amounts to *1.23%* which indicates that the dairy company generates *1.23%* of profitability from product sales. The economic profit/total invested capital ratio amounts to *3.20%* which indicates that the dairy company returns *3.20%* on its total invested capital. The *NOPAT/sales* ratio amounts to *2.45%* which indicates that the dairy company generates *2.45%* of *NOPAT* by selling products. Equally, since the return on invested capital - *ROIC* amounts to *6.37%* and the weighted average cost of capital - *WACC* amounts to *3.22%*, it can be concluded that the dairy company creates a positive economic value added.

3.3 Comparative Review of Specific Differences between Generated Accounting and Economic Profit

The models applied in determining the level of economic and financial success of the dairy company in the form of generated accounting and economic profits clearly show that the dairy company's business was successful, therefore economically and financially justified. However, in order to perceive the more complete, holistic level of the dairy company's business success, it is undoubtedly necessary to conduct a comparative analysis of the obtained results. Accordingly, the obtained results should be compared to the results of similar companies within the dairy industry, on the one hand, and the selected financial ratios should be compared on the basis of their movements in the long-term period, on the other.

The obtained results from the comparative analysis related to the generated profit based on the applied models clearly indicates that there are specific differences between the two. Namely, the dairy company's accounting profit amounts to *HRK 1.223.332* and its economic profit amounts to *HRK 649.620*. The obtained results are not surprising because of the fact that the model of accounting profit includes only explicit costs of financing (cost of debt linked to creditors), which means that it does not include the cost of equity financing (cost of equity linked to shareholders). Accordingly, there is no doubt that the dairy company's accounting profit and traditional (accounting) financial ratios of profitability are higher than its economic profit and market-oriented

impact on the cost of equity financing. Because of this assumption, there is, of course, a possibility that in reality deviations occur while determining the cost of equity financing and consequently the WACC.

financial ratios of profitability. Although the share of equity financing in the capital structure amounts to *83%*, the cost of equity financing is not included in the total cost of financing. However, it does not mean that this cost does not exist and that the dairy company should not cover it. On the other hand, the model of economic profit, besides the explicit costs of financing, also includes the implicit cost of financing in the form of the cost of equity capital. Therefore, it is not surprising that the generated economic profit (*HRK 649,620)* is significantly lower than the generated accounting profit *(HRK 1,223,332)*. Since the dairy company also has to cover the cost of equity financing, it can be concluded that the generated economic profit is certainly a more representative measure of determining the level of achieved economic and financial success.

4. Conclusion

Previous findings show that it is justified to consider the specific differences between the accounting approach and the economic approach in determining generated profit, since it is still the dominant economic category used by external and internal users when making business and financial decisions. Based on the results of a comparative analysis of the models of accounting profit and the of economic profit which were used in the case of a small family dairy company, it was shown that the level of generated accounting profit and usual traditional (accounting) financial ratios of profitability differ significantly from the level of generated economic profit in the absolute and relative amount. Accordingly, it can be concluded that the real value of usage of particular models differ significantly from the viewpoint of quality in ensuring relevant information to external and internal users in the business and financial decision-making process.

Since the model of accounting profit is *ex post* oriented and includes only the explicit costs of financing, it does not perceive the company’s business as a whole; hence its usage value is lower than the usage value of the economic profit model. On the other hand, the model of economic profit is *ex ante* oriented and, besides the explicit costs of financing it includes the cost of capital in the form of opportunity cost of investment. Furthermore, the model of economic profit enables information on whether a company creates or destroys its value by using the possibility of clear economic value added determination. Hence, based on the holistic approach in understanding a company's business, whereby a company is understood as a potential that exists and acts within a contemporary environment, the usage value of the model of economic profit is higher than the model of accounting profit. Finally, it can be concluded that the model of economic profit is justifiably put in a more superior position towards the model of accounting profit. Also, the research results show that there is a need for caution in using such information since this information can undoubtedly influence the determining of future success potential of a company.

REFERENCES

Copeland, T., Koller, T., Murrin, J. (1996), ***Valuation - Measuring and Managing the Value of Companies***, McKinsey & Company.

Harrington, D., R., (1993), ***Corporate financial analysis***: ***Decisions in a Global Environment***, Homewood: Richard D. Irwin.

Gašparović, V. (1996), ***Teorija rasta i upravljanje rastom poduzeća***, Zagreb: Školska knjiga.

Koutsoyiannis, A. (1997), ***Moderna mikroekonomika***, Zagreb: Mate.

Santini, I. (2013), ***Financijski menadžment: izabrane teme***, Zaprešić: Visoka škola za poslovanje i upravljanje s pravom javnosti «Baltazar Adam Krčelić».

Santini, I. (2001), ***Istraživanje pretpostavki primjene Shareholder value koncepcije u gospodarstvu Republike Hrvatske***, Magistarski rad, Zagreb: Sveučilište u Zagrebu: Ekonomski fakultet.

Žager, K. (et.al.) (2008), ***Analiza financijskih izvještaja***, 2. prošireno izdanje, Zagreb: Masmedia.

http://www.basiszinskurve.de/basiszinssatz-gemaess-idw.html;

Ljubo Jurčić, PhD, Professor
University of Zagreb, Faculty of Economics and Business
J.F.Kennedy Square 6, 10 000 Zagreb
E-mail address: ljjurcic@efzg.hr

Antea Barišić, M.A., Teaching and Research Assistant
University of Zagreb, Faculty of Economics and Business
J.F.Kennedy Square 6, 10 000 Zagreb
E-mail address: abarisic@efzg.hr

FOREIGN DIRECT INVESTMENT INFLOW EFFECTS: THE CROATIAN EXPERIENCE

EFEKTI PRILJEVA STRANIH IZRAVNIH ULAGANJA: ISKUSTVO REPUBLIKE HRVATSKE

ABSTRACT

This paper examines determinants, flows and structure of foreign direct investment (FDI) inflow in Croatia since gaining independence, as a case study of a small developing European Union (EU) new member state (NMS) that has recently experienced the transition process to market economy. It discusses the fact that Croatia has been trapped at the lower stage of the net FDI development path and it hasn't still experienced significant changes since joining the EU. The aim of this paper is to show a case filling the literature through pointing out to high heterogeneity of the FDI effects, while considering the host country circumstances role as FDI flows and effects determinant. In this case we revisit endogenous growth theory which points out FDI as an important determinant of the long-term growth rate of income, through examining FDI as a main technology transfer channel and a human capital development driver with positive spillover effects on the rest of the economy. We investigate whether FDI has served as a way of taking resources out of the host country through repatriated profits/dividends and we point out the role of transfer prices within multinational companies. Furthermore this paper argues on several economic distortions that might jeopardise the positive effect of FDI and lead foreign investors to make use of profit opportunities and not to follow higher efficiency. The main purpose of this paper is to show how specific country circumstances and several economic distortions affected the FDI inflow, its structure and trends, determining its effect on the Croatian economic growth.

***Key words**: Foreign Direct Investment, FDI determinants, Economic growth, Repatriated income, EU NMS.*

SAŽETAK

Ovaj rad ispituje determinante, kretanja i strukturu priljeva izravnih stranih ulaganja u Hrvatskoj od njenog osamostaljenja, kao studiju slučaja male zemlje u razvoju, nove članice Europske unije (EU) koja je u prethodnom periodu prošla kroz proces tranzicije ka tržišnom gospodarstvu. Ukazuje na činjenicu da je Hrvatska ostala zarobljena u nižoj fazi razvojnog ciklusa neto inozemnih izravnih ulaganja te da još uvijek nema značajan efekt od pridruživanja EU u ovom području. Cilj ovog rada je pojasniti ovaj slučaj koji doprinosi literaturi kroz isticanje heterogenosti efekata izravnih stranih ulaganja, uzimajući u obzir ulogu utjecaja okolnosti prisutnih u zemlji primateljici na kretanja izravnih stranih ulaganja te njihove efekte. Pri tom se razmatra endogena teorija rasta koja ističe *izravna strana ulaganja kao važnu determinantu stope dugoročnog rasta dohotka, ispitujući jesu li izravne strane investicije bile glavni kanal za transfer tehnologije i razvoj ljudskog kapitala sa pozitivnim efektima prelijevanja na ostatak gospodarstva. Ispituje se jesu li izravna strana ulaganja služila kao način iskorištavanja i odnošenja resursa iz zemlje primateljice kroz repatrijaciju profita/dividende i ukazuje se na ulogu transfernih cijena kod multinacionalnih poduzeća. Dodatno, u ovom radu se ispituju ekonomske distorzije koje mogu ugroziti pozitivne efekte izravnih stranih ulaganja i voditi strane investitore ka iskorištavanju mogućnosti ostvarivanja profita na određenom tržištu, a ne slijedom potrage za višom razinom efikasnosti. Glavna svrha ovog rada je ukazati na činjenicu da su specifične okolnosti zemlje i određene ekonomske distorzije utjecale na priljev izravnih stranih ulaganja, njihovu strukturu i trendove, određujući tako njihove efekte na ekonomski rast Hrvatske.*

Ključne riječi: *Izravna strana ulaganja, Determinante izravnih stranih ulaganja, Ekonomski rast, Repatrijacija dohotka, Nove članice Europske unije.*

1. Introduction

FDI has been promoted as one of the key economic elements of the ongoing process of accelerating globalisation (OECD, 2008). Accelerating integration of capital markets at the beginning of the ′90s, following the Washington consensus and the fall of Berlin Wall led to surge of foreign direct investment (FDI) in the world, increasing its nominal value more than 6 times in the same decade (World Bank, 2017). Deregulation of markets, technological innovation and decrease of communication costs led to increasing investment across borders and enabled the growth of international production (OECD, 2008). From 1990. when it amounted to $ 196,32 billion in the world, FDI inflow raised to $ 2,3 trillion in 2016 (World Bank, 2017). While today most of the FDI goes to developed countries, in the ′90s largest capital inflow share was recorded in developing economies, mostly due to the mentioned transition process and opening their markets to foreign capital.

The primary goal of this liberalisation was promoted to be the global prosperity. In the process of transition of centrally planned economies to the market economy, FDI was seen as one of the main drivers of growth, argued to hold important role in the diffusion of ideas and technology across borders (Barrel & Pain, 1997, 1785). Since then FDI has been a significant source of external financing, more important than remittances, official development aid and external debt in most of the countries (UNCTAD, 2017, 12). Policy-makers have emphasised FDI as a key development driver during the transition process. This led to developing countries opening to FDI flows, hoping to bring them technological catch-up, generate employment, finance gaps in the current account and increase tax revenues. General assumption of the FDI key role in the process of economic development, led developing economies in struggling to attract FDI inflow hoping to achieve mentioned large benefits from it.

But what is crucial for all economies is that the FDI structure has to follow the strategy of economic development of a country. Besides being in line with industrial policy of the country, in order to generate positive effects of FDI several prerequisites are needed. Albeit FDI might have significantly positive effects to the host economy it is important to show that their effect depends on a range of determinants, from their structure to the country specific characteristics and circumstances. Literature points out that FDI can also have no or negative effect to the recipient country. It can be a way of taking out resources from the recipient country, mainly in the form of repatriated profits (dividends) but also through transfer prices within multinational companies (MNCs) while foreign companies presence can negatively affect domestic companies pushing them out of the market.

Accordingly, it is important not to assume the prevailing positive effect according to some other countries experiences and show that it must be investigated case by case. Thus the main aim of this paper is to show the Croatian experience of FDI inflow effects, its determinants and flows, also presenting the data in comparison to several other new market economies that are now members of the EU.

2. Impact of foreign direct investment on developing host economies - Literature review

According to neoclassical approach FDI can only affect the level of income in the short-term through increase of capital, while the long term growth can only be affected by technology progress which is considered exogeneous (Makki, Somwaru, 2004, 795). On the other side endogenous growth models assume that FDI can affect growth endogenously creating spillover effects (human capital and technology diffusion) on the rest of the economy. Aldough public policy makers promote FDI as a growth determinant, there is a lack of consensus on its impact in the existing literature. Literature on the foreign capital presence impact is not unanimous on whether it is positive in sum, negative or it has no effect for the host country. Almfraji and Almsafir (2013, 209) point out to the varying effects of FDI on recipient country growth taking into account broad number of studies in previous two decades. Effects of FDI on the economic growth can be direct and indirect.

While in the positive way FDI can directly increase capital formation in the host economy, it might also indirectly enhance growth through other factors that can increase domestic productivity growth and its convergence to developed economies. Part of the literature emphasises positive FDI effects on the recipient country, pointing it out as one of the main determinants on the path of economic catch-up of developing economies. The positive effect can be achieved through learning by-doing but also through learning by-observing (Alfaro et al., 2004, 1), what indicates positive externalities of FDI activities on the overall economy. With that in line in the framework of endogenous growth theory Borensztein et al. (1998, 133) emphasise the FDI long-term growth contribution through technological progress spillover effects, rather than the contribution to increasing the capital accumulation which is considered as the source of growth within the neoclassical model. Besides advanced technology and know-how transfer from developed to developing countries, the most important spillover effect that is shown in the literature is the human capital development and organisational knowledge increase through exposure to modern managerial skills, as well as institutional development. Several studies show that foreign-owned companies show higher productivity levels and also have higher wages than domestic ones, while the spillover effect has shown to be inconclusive (Lipsey, 2004, 370). While some researchers argue on the positive horizontal spillover effects (on local competitors), studies mostly reveal their null or negative effect in developing countries, while somewhat larger in developed countries (Gorodnichenko et al., 2007, 4). On the other side effect of vertical spillover (to downstream domestic firms- domestic suppliers) has shown to be more significant due to fact that they have the motivation to improve their productivity (Gorodnichenko et al., 2007, 4).

Most of the studies emphasise the role of the absorptive capacity of a recipient country that can determine the effect of FDI. Borensztein et al. (1998, 117) as well as Bijsterbosch and Kolasa (2010, 5) emphasise the key role of existing threshold of human capital in order to achieve higher productivity of FDI. Alfaro et al. (2004, 2) emphasise the local financial market development level as crucial for gaining positive effects from FDI. With that in line Hermes and Lensink (2003, 21) point out that countries should first improve their domestic financial systems and then go for the liberalisation of the capital account allowing the increase of FDI inflow. It is also important to determine the level of efficiency of country in the use of new technologies in FDI related capital accumulation, what might arise difficulties in assimilation through improving old technologies and on the other side determine whether technology acquired through FDI is significantly more modern and productive than the existing one in the host country (De Mello, 1999, 146).

Botric & Skuflic (2006, 361) point to three broad categories of motives for FDI- economic policy of host country, economic performance and attractiveness of national economy. Several other researchers point out the importance of economic surrounding and the effect of entering economic integrations as well as MNC strategies as a major motives of FDI , which can all also determine the FDI effect in the host economy. Jude and Levieuge (2015, 4) accentuate the role of institutional framework in enabeling the positive FDI effects, connecting lower institutional quality with lower investment rate but also slower productivity growth upon investment inflow in developing countries. Gradual increase of FDI benefits have especially shown in cases of reforms in democratic accountability, bureaucracy quality and ethnical tensions.

As Romer (1997, 63) points out dissemination of ideas needs monetary incentives, meaning that it is essential to make an overview of the amount of funds that are withdrawn from the economy through this kind of investment to analyse the incentives that draw the foreign companies to investing in the particular country and sector. This kind of analysis can reveal the zero or even negative effect that FDI can have on the host economy. Besides effects that can be directly seen through the BoP primary income outflow it is important to be aware of the potential of using transfer prices as a way of transferring profit across borders. Furthermore if FDI is mostly received as acquisition of local companies, higher productivity of these foreign-owned companies might reflect the process of so called "cherry picking" through targeting already outstanding companies in the respective industry sector or the sector that is already the most successful (Lipsey, 2004, 357). FDI can also increase competition on the local market through acquiring other local companies market shares and having negative effect on domestic companies productivity in case of cutting back their production or "stealing" their best human capital (Gorodnichenko et al., 2007, 3). Most of the firm-level studies do not show positive effect of FDI on the overall economic growth (Carkovic & Levine, 2002, 1). Almfraji and Almsafir (2013, 210) mention also possible negative externalities such as unemployment, over-urbanisation and income inequality.

While still some of the countries around the world are trying to promote FDI in any mode, the share of FDI promoting measures have been declining in the last years. Aware of the aforementioned many countries are taking a more critical stance towards foreign M&As in cases of strategically important companies and the share of regulatory or restrictive measures in this part has increased in last three years (UNCTAD, 2017, 98).

After overviewing a vast number of studies the key conclusion can be pointed out. FDI effects vary significantly by country and an in-depth study that will show specific FDI determinants, country characteristics and circumstances together with structure of the FDI inflow that leads to certain effects is essential. Policy makers must be aware of possible negative impacts without having excessive expectations of FDI and promote FDI in line with the structured industrial policy in order to produce positive effects on the economy as a whole.

3. Foreign direct investment inflow effects: the Croatian experience

The enthusiasm after the Washington consensus and fall of the Berlin wall drove the surge of FDI to developing countries. FDI was promoted as a vehicle of economic modernisation and a fast way of integration in the world economy which led to high levels of FDI as percentage of GDP in transition countries, which was higher than the world average. The pace of inflow to the transition countries varied significantly due to specific circumstances of each country (Curwin & Mahutga, 2014, 1160).

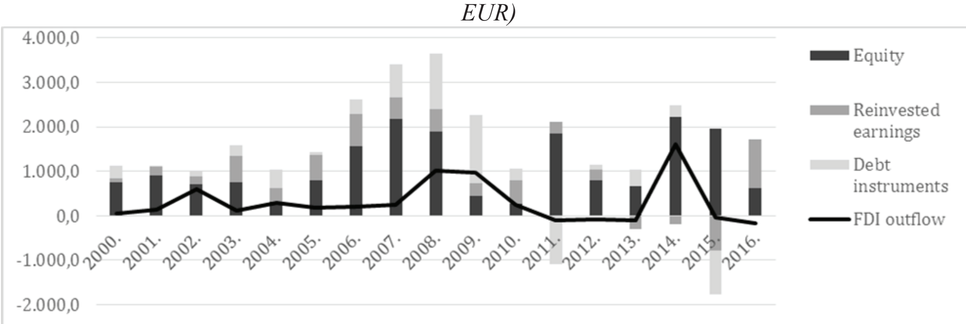
Table 1 *FDI as % of GDP*

Country/ Year	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012	2014	2016
Croatia	0,8	2,0	3,7	4,8	4,0	2,8	6,4	7,5	1,9	2,7	5,0	3,4
Czech Republic	2,1	2,1	5,6	8,1	10,4	4,2	3,5	2,7	3,0	3,9	2,6	3,5
Slovakia	1,8	1,8	3,1	9,3	16,7	7,0	8,2	4,8	2,0	3,2	-0,5	-0,3
Slovenia	0,8	0,8	1,0	0,7	6,9	2,4	1,6	2,2	0,2	0,7	2,1	2,8

Source: WIIW (2017)

As Croatia was under war until the mid ′90s the FDI inflow started coming later than to other transition economies, increasing significantly at the beginning of the 21st century and reaching its highest value at the beginning of World financial crisis in 2008. At that time centrally planned economy with large monopolistic companies was put under a rapid privatization process giving a specific case to show the FDI effects in short and long term. First large FDI in Croatia was due to the privatisation process in the financial sector, public offer of the large domestic pharmaceutical company on the London Stock Exchange and privatisation in the telecommunication industry (Jurcic & Barisic, 2017, 8). As Franc (2013, 35) points out Croatia has been trapped in the lower stage of the FDI development path according to Dunning′s model with relatively low net FDI outflow, what is in line with his assumption that FDI inflow and outflow rise parallely with the economic development of country. It is also important to explore each of the FDI inflow components separately - equity investment, reinvested earnings and debt instruments, in order to point out the amount of new equity inflow and on the other side the amount of profit that foreign companies are achieving (and reinvesting) as well as debt instruments funds inflow.

Figure 1 *FDI inflow (equity, reinvested earnings, debt instruments) and outflow in Croatia (in mln EUR)*



Source: HNB (2017)[1]

Besides FDI inflow it is essential to consider balance of payments (BoP) primary income regarded to income associated with the assets ownership where we can clearly see the amount of money that is withdrawn from the country in the form of dividends, as "the distributed earnings allocated to the owners of equity for placing funds at the disposal of corporations" (MMF, 2009, 187). Primary income besides dividends contains reinvested earnings, interests, and also compensations of employees, guarantees income, pension funds income, rent etc. Net primary income equals the difference between the gross national income and gross domestic product. It is calculated as difference between primary income receivables to residents and payables to non-residents (MMF,

[1] *Since November 2014, data have been compiled in accordance with the new methodology of the Balance of Payments and International Investment Position Manual (BPM6) and the new sector classification of institutional units in line with ESA 2010. Data also include the round tripping which increases FDI in Croatia and FDI abroad by the same amount. This type of direct investment was recorded in 2008 (EUR 825.7 mln), 2009 (EUR 666.5 mln), 2010 (EUR - 618,6mln) and 2014 (EUR 1.485,8 mln).*

2009, 183). Table two shows that Croatia has negative difference between GNI and GDP, indicating negative sum of the primary income. The positive numbers are recorded only in the crisis years that reflected the market situation. Other comparable economies that have experienced the transition process also recorded negative sum as shown below.

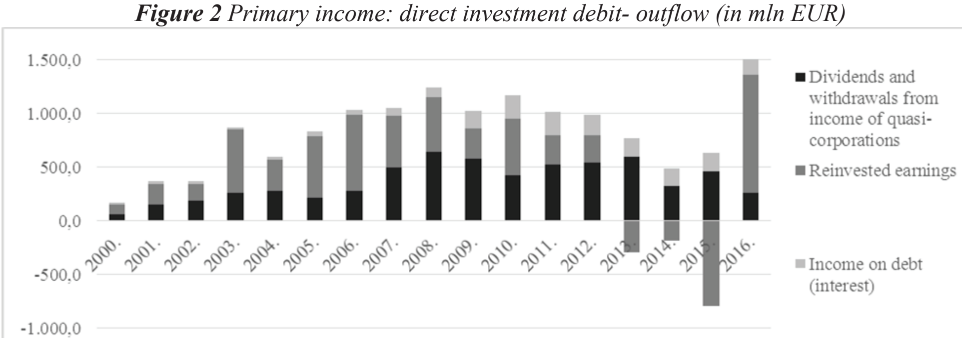
Table 2 *Difference (in mln US $) between GNI and GDP (current $)*

	1998	2000	2002	2004	2006	2008	2010	2012	2014	2016
Czech Republic	-40	31	-144	-150	-129	-457	-63	-40	-100	-100
Croatia	-10	16	-26	-49	-16	-85	11	10	-14	-1
Slovak Republic	-7	6	-28	-89	-13	-78	35	15	-28	15
Slovenia	-2	22	-16	-31	4	-56	23	15	-13	-1

Source: Author' calculation: World Bank data (2017)

In the period from 2000. to 2016. the net primary income in Croatia continually showed negative figures overall as a result of negative figures of foreign domestic investment net income, which was mostly due to the retained profits and dividends paid to the foreign investors.
Total dividend outflows regarding FDI, amounted to 6.285,9 mln EUR in the period from 2000. to 2016., while together with retained profit outflows (in amount of 4.755,4 mln EUR) showing the total profit of foreign companies amounted to 11.041,3 mln EUR, reaching the highest level in 2016. due to high retained profit in the financial sector. Total profits including paid out dividends and reinvested earnings in the mentioned period amounted to 59,02% of total FDI new equity inflow indicating the rate of the FDI investment return in the observed period.

Figure 2 *Primary income: direct investment debit- outflow (in mln EUR)*



Source: HNB (2017)

The results of FDI effect on the economy as a whole are significantly dependent on the amount of repatriated profits and as well to the extent to which they decrease domestic economic output or to say eliminate the domestic competition (Curwin, Mahutga, 2014, 1161-1162). Analysing FDI inflow structure in longer time series (in this case since the first FDI that was officially recorded in the modern Croatian history statistics in 1993) reveals the attractiveness and sources of attractiveness of Croatia as recipient country on the global investment market. It shows us whether the motives of FDI in the recipient economy where mostly market-seeking, resource-seeking or efficiency-seeking. The questions that arises therefore is whether FDI augmented the host countries capital investment or it crowded out domestic investment (Makki & Somwaru, 2004, 799). In order to indicate the answer to this question we present the FDI inflow structure in the period from 1993. to 2016.

Figure 3 *Sectoral share of FDI inflow*

Activity	Share
Financial service activities, except insurance and pension funding	31%
Real estate activities, investments, construction of buildings	15%
Wholesale trade, except of motor vehicles and motorcycles	9%
Telecommunications	6%
Retail trade, except of motor vehicles and motorcycles	5%
Manufacture of coke and refined petroleum products	4%
Manufacture of basic pharmaceutical products and pharmaceutical preparations	3%
Other	26%

Source: HNB (2017)

Johnson (2006, 13) argues that FDI effects largely depend on whether it is mostly greenfield investment in new production, distribution or research or brownfield investment in already existing facilities. After exploring the structure upon industries of investment we can see that most of the FDI in Croatia was received in financial services (banks and insurance companies), then wholesale, telecommunication, retail, pharmaceutical industry and construction, all mostly regarding to privatisation related (brownfield) takeovers of large monopolistic companies. We also must have in mind that in most cases FDI include taking over the more efficient host country companies, while the less efficient are left in domestic ownership (Lipsey, 2004, 354). Effects to consumers mainly through retail brought cheaper goods produced by foreign affiliates can lead to weakening several local producing positions and creating additional balance of payments deficit (Lipsey, 2004, 372). FDI effects can be influenced by industrial policy, trade policy and developments within regional integrations as they change the environment in which companies operate (Barrell & Pain, 1997, 1784-1785), but positive effects regarding the mentioned have not yet shown in Croatia. Offering incentives to attract FDI in order to meet industry development objectives (developing strategic sectors) has not yet been achieved. There was very small number of greenfield projects announced, especially referring the transport manufacturing industry that took a significant part in FDI in Europe in previous years (UNCTAD, 2017). This is mostly due to the fact that most desired greenfield FDI is predominantly resource seeking or efficiency seeking, both requiring lower costs of production with similar levels of factor productivity, whilst taking into account also the membership in the regional integrations (UNCTAD, 2017). Thus, FDI flows to transition economies have changed since the ′90s when the comparative advantage mainly lied in relatively cheap and skilled labour. While these cost advantages started to erode in the 2000′s as a consequence of the productivity level increase on a slower rate than wages and at the same time emerging of cheaper competitors channeling efficiency seeking FDI to other eastern countries (Szent-Ivanyi, 2016, 244). Croatian data shows that FDI inflow has not increased along the path to the EU, as a consequence of the relatively high wages in comparison to Bulgaria and Romania, but also other CEE countries that have previously joined the EU (WIIW, 2017).

4. Conclusion

FDI has been in the mainstream of public policy as a key developement driver across transition economies. Croatian case shows an example of country in transition, experiencing the war at the beggining of ′90s, when other CEE countries started receiving FDI inflows from developed economies. Foreign capital inflow in Croatia started after the mid ′90s, mainly through the process of rapid privatisation. Due to that, most of the inward FDI were brownfield investments- aquisitions of large market leading companies. After the crisis that started affecting Croatia in 2009 FDI inflow did not not continue to increase, leaving Croatia trapped at the lower stage of FDI development model. Taking into account only dividends and retained profits recorded within the BoP primary income, in the period from 2000 to 2016, foreign investors have reached 59% return on their total equity investment. Joining the EU hasn′t significantly changed the pace of FDI in Croatia, what can be attributed to the fact that it was the latest one to join, with higher labour costs than most of other CEE countries, not giving a clear incentive to foreign investors to direct their investment in the Croatian economy.

REFERENCES

Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004): ***FDI and economic growth: the role of local financial markets***, Journal of international economics, Vol. 64, No.1, pp. 89-112

Almfraji, M. A., & Almsafir, M. K. (2013): ***Foreign direct investment and economic growth literature review from 1994 to 2012,*** Procedia-Social and Behavioral Sciences, Vol. 129, pp. 206-213

Barrell, R., & Pain, N. (1997): ***Foreign direct investment, technological change, and economic growth within Europe,*** The Economic Journal, Vol. 107, No. 445, pp. 1770-1786

Bijsterbosch, M., & Kolasa, M. (2010): ***FDI and productivity convergence in Central and Eastern Europe: an industry-level investigation*,** Review of World Economics, Vol. 145, No.4, pp. 689-712

Borensztein, E., De Gregorio, J., & Lee, J. W. (1998): ***How does foreign direct investment affect economic growth?,*** Journal of international Economics, Vol. 45, No. 1, pp. 115-135

Botric, V., & Škuflić, L. (2006): ***Main determinants of foreign direct investment in the southeast European countries,*** Transition Studies Review, Vol.13, No.2, pp. 359-377

Carkovic, M., & Levine, R. (2002): ***Does Foreign Direct Invesment Accelerate Growth?*** in Financial Globalization: A Blessing or a Curse*,* World Bank Conference.

Curwin, K. D., & Mahutga, M. C. (2014): ***Foreign direct investment and economic growth: New evidence from post-socialist transition countries***, Social Forces, Vol. 92, No.3, pp. 1159-1187

Franc, S. (2013): ***Razvojni ciklus inozemnih izravnih neto ulaganja zemalja članica Europske unije,*** Ekonomski vjesnik: Review of Contemporary Entrepreneurship, Business, and Economic Issues, Vol. 26, No.1, pp. 23-37.

Gorodnichenko, Y., Svejnar, J., & Terrell, K. (2007): ***When Does FDI Have Positive Spillovers? Evidence from 17 Transition Economies,*** IZA Discussion Paper, No. 3079

Hermes, N., & Lensink, R. (2003): ***Foreign direct investment, financial development and economic growth***, The Journal of Development Studies, Vol. 40, No. 1, pp. 142-163

HNB (2017): ***Balance of Payment Statistics***, available at: https://www.hnb.hr/en/statistics/statistical-data/rest-of-the-world/ (accessed 20 March 2018)

Johnson, A. (2006): ***The effects of FDI inflows on host country economic growth,*** The Royal Institute of technology, Centre of Excellence for studies in Science and Innovation, available at: http://www. infra. kth. se/cesis/research/publications/working papers, (accessed 24 March 2018)

Jude, C., & Levieuge, G. (2015): ***Growth effect of FDI in developing economies: the role of institutional quality,*** Banque de France Working Paper, No. 559

Jurcic, Lj. & Barisic, A. (2017): ***Croatian Balance of Payment Current Account Analysis***, in: 25. Tradicionalno savjetovanje Hrvatskog društva ekonomista, Hrvatsko društvo Ekonomista, Zagreb November 8-10th, 2017.

Lipsey, R. E. (2004): ***Home-and host-country effects of foreign direct investmen,*** in Baldwin R.E., Winters, L.A., ed.: Challenges to globalization: Analyzing the economics, University of Chicago Press, Chicago, pp. 333-382

Makki, S. S., & Somwaru, A. (2004): ***Impact of foreign direct investment and trade on economic growth: Evidence from developing countries,*** American Journal of Agricultural Economics, Vol. 86, No.3, pp. 795-801

De Mello, L. R. (1999): ***Foreign direct investment-led growth: evidence from time series and panel data***, Oxford economic papers, Vol. 51, No.1, pp. 133-151.

MMF (2009): ***Sixth Edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6)***, available at: https://www.imf.org/external/pubs/ft/bop/2007/bopman6.htm, (accessed March 4th 2018)

OECD (2008): ***OECD Benchmark Definition of Foreign Direct Investment Fourth Edition***, https://www.oecd.org/daf/inv/investmentstatisticsandanalysis/40193734.pdf, (accessed March 20th 2018)

Romer, P. M. (1997): ***Two strategies for economic development: using ideas and producing ideas***, in Proceedings of the World Bank Annual Conference on Development Economics, pp. 211-238.

Szent-Iványi, B. (2016): ***Conclusions: prospects for FDI-led development in a post-crisis world***, in B. Szent-Iványi, ed.: Foreign Direct Investment in Central and Eastern Europe: post-crisis perspectives, Studies in Economic Transition, Palgrave Macmillan, pp. 242-260

UNCTAD (2017): ***World Investment Report: "Investment and the digital economy"*** (accessed March 5th 2018)

WIIW (2017): ***FDI database***, available at: https://data.wiiw.ac.at/fdi-database.html (accessed March 5th 2018)

World Bank (2017): ***World Bank Data***, available at: https://data.worldbank.org/ (accessed March 5th 2018)

Gordana Kordić, Ph. D.
Faculty of Economics and Business, University of Zagreb
Trg J. F. Kennedyja 6., HR-10 000 Zagreb, Croatia
Phone: +385 1 238 3333, Fax: +385 1 233 5633
E-mail address: gkordic@net.efzg.hr

Maja Mihelja Žaja, Ph. D.
Faculty of Economics and Business, University of Zagreb
Trg J. F. Kennedyja 6., HR-10 000 Zagreb, Croatia
Phone: +385 1 238 3333 Fax: +385 1 233 5633
E-mail address: mmiheljaz@net.efzg.hr

Margareta Gardijan, Ph. D.
Faculty of Economics and Business, University of Zagreb
Trg J. F. Kennedyja 6., HR-10 000 Zagreb, Croatia
Phone: +385 1 238 3333, Fax: +385 1 233 5633
E-mail address: mgardijan@net.efzg.hr

EVALUATING FISCAL RULES EFFICIENCY IN EUROPEAN UNION COUNTRIES USING DATA ENVELOPMENT ANALYSIS

VREDNOVANJE EFIKASNOSTI FISKALNIH PRAVILA U ZEMLJAMA EUROPSKE UNIJE KORIŠTENJEM ANALIZE OMEĐIVANJA PODATAKA

ABSTRACT

Global financial crises, which negatively influenced the world economy from 2007 onwards, strongly endangered the macroeconomic stability of the European Union. Still, the convergence criteria agreed in Maastricht in 1992, in terms of monetary and fiscal stability, were not changed. On the other hand, national authorities introduced sets of (fiscal) rules in order to preserve stability. The aforementioned rules were oriented towards macroeconomic stability and, consequently, restoring growth and crisis solving.
The aim of the paper is to examine the efficiency of conducting fiscal rules for 28 European Union countries considering the Maastricht criteria as a prerequisite convergence rule. For that purpose the Data Envelopment Analysis (DEA) is used as a mathematical programming method for estimating the relative efficiency of countries given multiple criteria: large deviations from the Maastricht (fiscal) criteria are considered undesirable, while greater GDP growth, revenue in GDP and employment rate are desirable characteristics in terms of chosen macroeconomic indicators. DEA reveals countries that were relatively efficient or inefficient during 2000-2016, how they changed their efficiency over time and variables that can be recognized as the key strength or weakness of a country.

Key words: *fiscal rules, European Union-28, economic crisis, Data Envelopment Analysis.*

SAŽETAK

Globalna financijska kriza, koja je negativno utjecala na svjetsko gospodarstvo od 2007. godine, snažno je ugrozila makroekonomsku stabilnost Europske unije. Ipak, kriteriji konvergencije dogovoreni u Maastrichtu 1992. godine, u pogledu monetarne i fiskalne stabilnosti, nisu se promijenili. S druge strane, nacionalne vlasti uvele su skupove (fiskalnih) pravila kako bi se

očuvala stabilnost. Navedena pravila bila su orijentirana na makroekonomsku stabilnost, a time i na obnovu rasta i rješavanja kriza.
Cilj rada je ispitati efikasnost provedbe fiskalnih pravila za 28 zemalja Europske unije uzimajući u obzir kriterije iz Maastrichta kao nužna pravila konvergencije. U tu svrhu analiza omeđivanja podataka (AOMP) koristi se kao metoda matematičkog programiranja za procjenu relativne efikasnosti zemalja s višestrukim kriterijima: velika odstupanja od Maastrichtskih (fiskalnih) kriterija smatraju se nepoželjnima, dok su rast BDP-a, stope zaposlenosti i prihoda u BDP-u poželjna obilježja u smislu odabranih makroekonomskih pokazatelja. AOMP otkriva zemlje koje su bile relativno efikasne ili neefikasne u razdoblju od 2000. do 2016. godine, način na koji se njihova efikasnost mijenjala s vremenom i varijable koje se mogu prepoznati kao ključna snaga ili slabost neke zemlje.

Ključne riječi*: fiskalna pravila, Europska unija-28, ekonomska kriza, Analiza omeđivanja podataka.*

1. Introduction

There is a lot of discussion on monetary and fiscal policy efficiency in the European Union. While monetary policy is under control of European central bank and national banks, fiscal policies are delegated to national authorities, including a set of supranational fiscal rules. The Global financial crisis (re)opened discussion on efficiency of conducting fiscal rules. Whether set on a national or a supranational level, they are aimed at improving the efficiency of conducting fiscal policy and contribute to the stability and discipline. In terms of the European Union, supranational fiscal rules were agreed in Maastricht in 1992, but during the global financial crisis a number of countries introduced also rules on the national level in order to preserve macroeconomic stability and contribute to the Maastricht criteria fulfillment. The aim of the paper is to estimate the relative efficiency of countries in following fiscal rules and achieving targeted results. In that sense, we spread our conclusions on actual efficiency of fiscal rules. For that purpose we use Data envelopment analysis (DEA), a nonparametric mathematical programming approach for determining the relative efficiency of units under assessment (called decision making units, DMUs). DEA allows using multiple criteria, characterized by a set of variables, which can be separated into input variables and output variables. Following the idea from the production process and DMUs as production units, input variables are the ones we like to be as small as possible, and output variables are the ones whose values we like to be as great as possible. Roughly speaking, the efficiency is then estimated by how a DMU uses its inputs to produce its outputs. The methodology was introduced in (Charnes, Cooper, Rhodes, 1978) and was firstly applied for estimating the efficiency of factories, hospitals, schools and other similar entities that have visible inputs and outputs. However, DEA was recognized as a convenient procedure for comparing any set of relatively homogenous and comparable DMUs in terms of their multiple inputs and multiple outputs without having to determine the weights for a certain criterion, and its application can be found in finance, banking, insurance, portfolio management, etc., on both micro and macro level. This method was previously used for estimating fiscal efficiency, and the brief review of relevant literature using DEA is given in Chapter 2. However, to our best knowledge, there are no papers that estimate the efficiency of fiscal rules in the EU on a country level using this particular DEA approach. Our analysis covers a sample of 28 EU countries during the period from 2000 to 2016. For that purpose they were divided into three groups according to the accession date: Founders, 1973-1995 and New members.

The paper is structured as follows. The brief overview of theoretical background and literature is given in Chapter 2. Methodology is described in Chapter 3 and results of the empirical research are given in Chapter 4. Chapter 5 is the conclusion.

2. On Fiscal Rules in International Finance – the case of European Union countries, theoretical background and brief literature overview

Use of supranational fiscal rules in European Union member countries is well described in the literature, both in theoretical and practical aspect. Its formal basis is defined in Stability and Growth Pact that should assure the implementation of rules (Maastricht criteria) in terms of fiscal policy, including some easing of implementation from 2005 onwards (EC (online) 1), 2018). In 2012 "Treaty on Stability, Coordination and Governance in the Economic and Monetary Union" was agreed primary in terms of the balanced budget rule (EC (online) 2), 2018). Supranational rules were imposed by the European Union in a form of Maastricht criteria that include a limit of 3 percent of GDP for the fiscal deficit and 60 percent of GDP for general government debt. In 2012 expenditure rule was added and it states that the annual growth of primary expenditure should not exceed long-term nominal GDP growth (Lledó, et. al., 2017, 81).

In literature, fiscal rules are described as numerical targets for fiscal indicators whose aim is to control fiscal policy and budgetary discipline for a longer period of time (Kopits and Symansky, 1998; Schaechter, et. al., 2012,5-6; EC (online) 3), 2018). Furthermore, some authors (Schaechter, et. al., 2012, 6) define the "next-generation" of fiscal rules that include both sustainability and flexibility, including institutional support (e.g. independent fiscal councils). Stabilisation effect of fiscal rules on national policy was confirmed for the sample of 21 OECD countries over 1985-2012, primary in terms of balanced budget rules that have proven to be the most effective (Sacchi, Salotti, 2014). Furthermore, the efficiency of balanced budget rules for EU27 countries, using national fiscal rules, was also confirmed. Still, the research has shown that supranational rules do not contribute to deficit bias reduction using national fiscal rules. (Bergman, et. al., 2016). Studies also included analyses of fiscal rules stringency and their determinants (Badinger, Reuter, 2017) and influence of rules on macroeconomic performance of EU member states (Begg, 2017.). While monetary policy remained under control of the independent central bank, the fiscal rules might be under control of (independent) fiscal councils, which should improve the efficiency of macroeconomic policies. (Larch, Braendle, 2018).

There are researches which use DEA in their efficiency analysis in different fields of economy, including health, social, education and other sectors besides public sector. For example, DEA is used in estimating the efficiency of the public sector in the new EU Member States and emerging markets (Afonso, Schuknecht, Tanzi, 2006). Other research (Mandl, Dierx and Ilzkovitz, 2008) included cross-country comparisons of the efficiency and effectiveness of public spending in EU27. One of the latest researches (Kyriacou, Muinelo-Gallo and Roca-Sagalés, 2015) studies the redistributive efficiency of fiscal policies as well as variables which determine redistributive efficiency.

Most of the EU countries also introduced national fiscal rules which are applied to general or central government. There are four types of applied fiscal rules: budget balance rule, debt rule, expenditure rule and revenue rule (Schaechter, et. al., 2012, 7-8). In Table 1 a summary of imposed national rules is given. We can see that governments mostly use budget balance rule at the general government level and combine it with debt rule and/or expenditure rule. Two countries, Czech Republic and Ireland do not have any type of national fiscal rule since medium-term expenditure framework (Czech Republic) and expenditure ceilings that offer multiannual estimations but can be altered annually, are not considered to be fiscal rules. Debt rules are dominant national rules in New member countries and expenditure rules prevail in Founder countries. As can be seen, revenue rules are present in only five EU countries so we can conclude that they have limited and unpopular role in stabilizing fiscal policy.

Table 1 *National fiscal rules in EU countries (2015)*

	BBR	DR	ER	RR		BBR	DR	ER	RR
AT	GG (’99/’17)	-	-	-	**IT**	GG (’14)	-	-	-
BE	GG (’13)	-	CG (’93-’98)	CG (’92-’98)	**LV**	GG (’13)	GG (’13)	GG (’14)	-
BG	GG (’06, ’09, ’12)	GG (’03)	GG (’06-’12)	-	**LT**	CG (’15)	CG (’97)	GG (’08)	GG (’08)
HR	GG (’12,’14)	GG (’09)	GG (’12-’14)	-	**LU**	GG (’14)	CG/GG (’90,’04)	CG (’90)	-
CY	GG (’14)	GG (’14)	-	-	**MT**	GG (’14)	-	-	-
CZ	-	-	-	-	**NL**	GG (’14)	-	GG (’94)	GG (’94)
DK	GG (’92/’14)	-	GG (’94-’14)	GG (’01-’11)	**PL**	CG (’06)	GG (’94,’14)	GG (’11,’15)	-
EE	GG (’93/’14)	-	-	-	**PT**	GG (’15)	-	-	-
FI	CG (’99,’11,’13)	CG (’95-’06)	CG (’03)	-	**RO**	GG (’13)	GG (’13)	GG (’10-’12)	-
FR	GS (’12)	-	CG/SS (’98)	CG/SS (’06 /’11)	**SK**	GG (’13)	GG (’12)	-	-
DE	CG (’69/’11)	-	CG/RG (’82-’09)	-	**SI**	GG (’15)	GG (’00,’15)	-	-
EL	GG (’14)	-	CG (’11)	-	**ES**	GG (’03,’06,11)	-	GG (’11)	-
HU	GG (’04,’10)	-	GG (’16)	-	**SE**	GG (’00)	-	CG/SS (’97)	-
IE	-	-	-	-	**UK**	PS (’97,’09, ’10, ’15)	PS (’97,’09, ’10)	-	-

Source: authors according to Lledó, et. al. (2017.)

BBR: budget balance rule; DR: debt rule; ER: expenditure rule; RR: revenue rule; GG: general government; CG: central government; SS: social security; RG: regional government; PS: public sector; Abbreviations used according to the EU standards

3. Methodology

In this paper we use data envelopment analysis (DEA), precisely the *BCC* model (Banker, Charnes and Cooper, 1984) to estimate the relative efficiency of EU28 countries in conducting fiscal rules. The formulation of the *BCC* model is as follows. Let there be *N* decision making units (DMUs): DMU_1, DMU_2,…, DMU_N which are homogenous and comparative. We assume that their efficiency should be estimated in terms of a certain number of *inputs* – the variables whose values we want to be as small as possible, and a certain number of *outputs* – variables whose values we like to be as big as possible. Let $x_{ij}>0$ be an *i*-th input for some DMU_j, $i\in\{1,\ldots,n\}$ and $y_{rj}>0$ its *r-th* output, $r\in\{1,\ldots,m\}$, $j\in\{1,\ldots,N\}$. Therefore, each DMU_j is represented by a vector of inputs $\boldsymbol{X}=\left(x_{1j},x_{2j},\ldots,x_{nj}\right)$ and vector of outputs $\boldsymbol{Y}=\left(y_{1j},y_{2j},\ldots,y_{mj}\right)$. In order to make the model stable, it is a recommendation (not a rule) that a number of DMUs (*N*) should not exceed $\max\{mn,3(m+n)\}$. For each $DMU_0=DMU_j$, $j\in\{1,\ldots,N\}$, a virtual input $u_1x_{1o}+\ldots+u_nx_{no}$ and a virtual output $v_1y_{1o}+\ldots+v_my_{mo}$ are formed with (initially) unknown weights (v_r) and (u_i). The significant contribution of the *BCC* model is that it allows each DMU to use the set of weights that puts it in the best position regarding the other DMUs (www.deazone.com [10.7.2013]). In this research, we use the output-oriented version of the model, whose aim is to estimate relative efficiency by defining the weights that maximize the ratio of virtual output and virtual inputs given the constraints of the model for each DMU. The original fractional model can be found in (Banker, Charnes and Cooper, 1984). However, after linearization of the model using Charnes-Cooper transformation (Charnes and Cooper, 1962), the measure of efficiency ϕ is obtained by solving the following linear program for each DMU_0=DMU_j:

$$
\begin{gathered}
\max_{\lambda,\phi} \phi - e\left(s^{+} + s^{-}\right) \\
\sum_{j=1}^{N} \boldsymbol{X}_j \lambda_j + s^{-} = \theta \boldsymbol{X}_0, \\
\sum_{j=1}^{n} \boldsymbol{Y}_j \lambda_j - s^{+} \geq \boldsymbol{Y}_0, \qquad (1) \\
\sum_{j=1}^{N} \lambda_j = 1, \\
\lambda_j \geq 0, \\
\left(j \in \{1,2,\ldots,N\}\right),
\end{gathered}
$$

where s^-, s^+ are vectors of slack variables and θ is the solution of the dual problem. If we denote the optimal solution as (ϕ^*, s^{+*}, s^{-*}), then DMU_0 is efficient if and only if $\phi^* = 1$ and $s^{+*} = s^{-*} = 0$. DMU_0 is weakly efficient if and only if $\phi^* = 1$ and $s^{+*} \neq 0$ or $s^{-*} \neq 0$ in some alternate optima (Cooper, Seiford and Zhu, 2011). This study uses *BCC* model because it can handle negative and missing data (Pastor, Ruiz, 2007) that can be frequently found in the financial analysis. In our application, where negative data occurred, we shifted the values of variables for a positive constant in order to get positive values. The missing data in inputs are replaced by a large constant and missing data in outputs by a small constant, as suggested in (Kuosmannen, 2009). Transformation of inputs does not affect the efficiency analysis of output-oriented *BBC* (Pastor, Ruiz, 2007) and allows keeping a certain DMU with missing data in the dataset. Also, we determine the efficiency using the pooled sample (i.e. window analysis with a 17 years long window). In this way, each country in each year is treated as an individual DMU and efficiency scores show the relative position of a country regarding all other countries in all other years. This procedure implicitly assumes no frontier shift during this period, but it allows ready analysis of efficiency changes during the period of analysis without the use of Malmquist index. Malmquist index differentiates the change of efficiency due to the frontier shift (as a result of 'technology' change) and the efficiency improvement of a certain DMU (Malmquist, 1953). In this case, we estimate efficiency regardless of frontier shifts in certain years.

From the results of the model (1) we can determine the efficient projections of DMUs on the efficient frontier. Namely, efficient DMU is characterized by vectors $X_0' = X_0\theta^* - s^{-*}$ and $Y_0' = Y_0\theta^* + s^{+*}$. For all inefficient DMUs we can calculate non-null vectors of deviations $\Delta X_0 = X_0 - X_0'$ and $\Delta Y_0 = Y_0 - Y_0'$, and then estimate the areas of inefficiency for a certain DMU. For solving the model, we used DEA-Solver-Pro (Professional Version 12.0).

4. Data and results

The sample for our study contains financial data for 28 EU members in the period of 2000 – 2016. We obtained data from the Eurostat and they were chosen by following two criteria: data availability and relevance. As input variables, we use debt (I1), deficit/surplus (I2) and expenditure (I3), and as output variables, we use revenue (O1), GDP growth (O2) and employment (O3). We shift the values of debt and deficit/surplus so these variables present the deviation from the targeted limit of 60% and 3%, respectively. The variables that we used are calculated in % of countries' GDP, except for employment and GDP growth. Following the conclusions of (Emrouznejad, Amin, 2009), using ratio data should not affect the efficiency analysis since all variables are in ratio form.

Descriptive statistics of these variables (before the translation for deviations and negative values) is shown in Table 2. We can ascertain that extensive variation in input and output variables is evident. These discrepancies were not unforeseen considering the differences among countries included in the sample. Since EU28 comprises of states that differ by territory size, the number of residents, and in economic and political aspects, it is not surprising that there are such differences between minimum and maximum values.

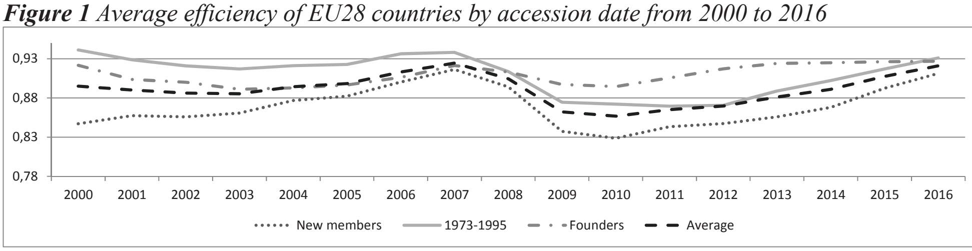
***Table 2** Descriptive statistics of variables for the period of 2000-2016 for all countries*

	Input variables			Output variables		
	Debt	Deficit/surplus	Expenditures	Revenue	GDP growth	Employment
average	56.3	-2.7	44.7	42.0	2.1	64.0
Min	3.7	-32.1	27.1	26.4	-14.6	48.8
max	180.8	6.9	65.1	56.6	24.8	77.9
SD	32.59	3.6	6.37	6.24	3.75	6.31

Source: author's calculation

By solving the model (1) for the pooled sample of 476 data (=28 countries × 17 years), we obtained efficiency scores for each DMU in each of the 17 years and they are presented in Table 3. Score 1 indicates that a country was efficient regarding all other countries in all years within the period of 2000-2016. In the context of fiscal rules, the aim of every DMU is to fulfill given national and supranational criteria and efficiency scores indicate how successful countries were through the years. By looking at the average efficiency by country we can see that Denmark, which had the highest average efficiency score, and Estonia, were the only countries that reached score 1 in four consecutive years (2005/06-2008/9). The average efficiency of the 28 EU countries was 0.891 over the 17 sample years. As indicated by Figure 1, the average score was increasing until 2007. Under the influence of global economic crisis, it was deteriorating from 2008 until 2010 when it dropped to 0.857 what was the lowest score throughout the entire sample period. As indicated in chapter 2 and Table 1, supranational rules were revised in 2012 and most countries implemented numerous national rules since 2010. All of this had the significant influence on the efficiency of fiscal rules implementation wherefore average efficiency score upsurges from 2011 onward.

***Figure 1** Average efficiency of EU28 countries by accession date from 2000 to 2016*



Source: author's calculation

In Figure 1 we also plot average efficiency of EU countries which are classified in three groups according to the year of entry into the EU: Founders (Belgium, France, Germany, Italy, Luxembourg, Netherlands), 1973-1995 (Denmark, Ireland, United Kingdom, Greece, Portugal, Spain, Austria, Finland, Sweden), and New members (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Bulgaria, Romania, Croatia). Figure 1 reveals that 2008 was the critical year. Until 2007 differences between average efficiency scores among three groups were declining and they were the smallest in 2007 when 7 countries recorded the highest efficiency scores.

Table 3 *Efficiency scores obtained in a BCC window analysis in the period of 2000-2016 (1 indicates efficiency)*

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Av	Inefficiency	Strength
AT	0.906	0.905	0.897	0.896	0.886	*0.881*	0.898	0.914	0.913	0.904	0.914	**0.922**	0.92	0.919	0.916	0.917	0.921	0.908	I2 \ O1	I3 \ O3
BE	0.894	0.892	0.894	0.875	0.888	0.871	0.885	0.886	0.881	*0.862*	0.871	0.889	0.912	**0.931**	0.92	0.906	0.896	0.891	I2 \ O2	I3 \ O3
BG	0.872	0.914	0.865	0.874	0.924	0.915	0.93	0.932	**0.936**	0.864	0.84	0.849	0.875	0.876	*0.821*	0.87	0.898	0.886	I2 \ O3	I3 \ O1
CY	0.82	0.945	0.942	0.921	0.939	0.924	0.943	**0.984**	0.964	0.907	0.905	0.886	0.851	0.823	*0.804*	0.864	0.895	0.901	I2 \ O2	I3 \ O3
CZ	0.891	0.876	0.869	0.866	0.873	0.892	0.899	0.907	0.899	0.863	*0.862*	0.876	0.869	0.902	0.918	0.945	**0.971**	0.893	I2 \ O1	I1 \ O3
DE	0.908	0.859	0.849	*0.842*	0.848	0.857	0.895	0.925	0.928	0.906	0.937	0.956	0.955	0.957	0.964	0.969	**0.976**	0.914	I2 \ O2	I3 \ O3
DK	0.992	0.985	0.978	0.973	0.99	**1**	**1**	**1**	**1**	0.976	0.964	0.967	0.968	0.97	**1**	*0.96*	0.969	**0.982**	I2 \ O2	I3 \ O1
EE	0.951	*0.912*	0.92	0.947	0.972	0.963	**1**	**1**	**1**	**1**	0.951	0.972	0.94	0.954	0.969	0.997	**1**	0.968	I2 \ O2	I1 \ O3
EL	0.821	0.803	0.798	0.816	0.81	0.788	0.827	0.809	0.793	0.78	*0.761*	0.774	0.822	0.866	0.837	0.85	**0.903**	*0.815*	I2 \ O2	I3 \ O3
ES	0.855	0.857	0.863	0.868	0.879	0.907	**0.929**	0.928	0.858	0.775	0.769	0.754	*0.723*	0.755	0.779	0.801	0.813	0.83	I2 \ O2	I3 \ O3
FI	**1**	0.976	0.961	0.937	0.94	0.941	0.964	0.986	0.971	0.927	*0.926*	0.944	0.955	0.97	0.97	0.958	0.955	0.958	I2 \ O2	I3 \ O3
FR	0.897	0.888	0.872	*0.867*	0.873	0.88	0.89	0.883	0.883	0.878	0.878	0.898	0.919	0.935	**0.938**	**0.938**	0.936	0.897	I2 \ O2	I3 \ O3
HR	*n/a*	**0.904**	0.888	0.873	0.832	0.829	0.851	0.867	0.836	0.788	0.776	*0.752*	0.782	0.778	0.788	0.836	0.871	0.828	I2 \ O3	I3 \ O1
HU	0.854	0.835	0.832	0.818	0.839	0.823	0.82	*0.807*	0.815	0.82	0.809	0.809	0.837	0.848	0.884	**0.893**	0.876	0.836	I2 \ O3	I3 \ O1
IE	**1**	0.981	0.967	0.965	0.98	0.996	**1**	0.997	0.921	0.82	0.799	0.796	*0.793*	0.828	0.883	**1**	**1**	0.925	I2 \ O1	I3 \ O3
IT	0.855	0.812	0.818	0.816	0.819	*0.81*	0.821	0.851	0.834	0.817	0.821	0.824	0.853	**0.856**	0.854	**0.856**	0.846	0.833	I2 \ O2	I3 \ O1
LT	0.835	0.846	0.871	0.919	0.89	0.916	0.921	0.97	0.893	0.793	*0.785*	0.852	0.869	0.892	0.924	0.938	**0.975**	0.888	I2 \ O1	I3 \ O3
LU	**1**	**1**	**1**	0.992	0.975	0.997	0.967	0.983	0.952	0.929	*0.896*	0.908	0.905	0.914	0.926	0.924	0.928	0.953	I2 \ O2	I1 \ O1
LV	0.857	0.866	0.878	0.892	0.911	0.973	**1**	0.993	0.944	0.793	*0.763*	0.857	0.88	0.898	0.907	0.929	0.942	0.899	I2 \ O3	I1 \ O3
MT	0.763	0.757	0.775	*0.736*	0.787	0.822	0.819	0.832	0.801	0.807	0.825	0.829	0.819	0.845	0.882	0.889	**0.916**	0.818	I2 \ O2	I3 \ O1
NL	0.976	0.969	0.968	0.953	0.953	0.965	0.98	**1**	**1**	0.991	0.964	0.959	0.959	0.95	*0.945*	0.963	0.978	0.969	I2 \ O1	I3 \ O3
PL	0.827	0.785	0.786	0.792	0.81	0.806	0.857	**0.881**	0.833	0.791	*0.784*	0.822	0.815	0.811	0.837	0.857	0.873	0.822	I2 \ O3	I3 \ O2
PT	**0.907**	0.901	0.898	0.879	0.882	0.872	0.883	0.89	0.882	0.849	0.851	0.822	*0.802*	0.815	0.827	0.838	0.866	0.863	I2 \ O1	I3 \ O3
RO	0.865	0.864	0.836	0.854	0.892	0.873	0.888	0.904	**0.907**	*0.794*	0.813	0.812	0.833	0.849	0.862	0.869	0.876	0.858	I2 \ O2	I3 \ O3
SE	**1**	0.97	0.954	0.952	0.964	0.966	0.974	0.969	0.957	*0.94*	0.967	0.95	0.948	0.958	0.966	0.977	0.983	0.964	I2 \ O1	I3 \ O3
SI	0.87	0.857	0.874	0.857	0.888	0.886	0.907	**0.931**	0.919	0.874	0.856	0.832	0.834	*0.818*	0.85	0.857	0.876	0.87	I2 \ O1	I3 \ O2
SK	*0.762*	0.786	0.79	0.839	0.837	0.847	0.866	**0.905**	0.874	0.792	0.803	0.814	0.813	0.831	0.838	0.856	0.878	0.831	I2 \ O2	I3 \ O3
UK	**0.989**	0.98	0.971	0.967	0.959	0.953	0.952	0.949	0.926	0.901	*0.897*	*0.897*	0.906	0.919	0.943	0.952	0.968	0.943	I2 \ O1	I3 \ O3
Av	0.895	0.89	0.886	0.885	0.894	0.898	0.913	**0.924**	0.904	0.862	*0.857*	0.865	0.87	0.881	0.891	0.907	0.921	0.891	I2 \ O2	I3 \ O3

Source: author's calculation; Abbreviations used according to the EU standards; bold values indicate maximum while italic indicates minimum values for a particular county; HR in 2000 had insufficient data for estimating efficiency

Six of them were from the group New members. This group experienced the major decline of average efficiency from 0.916 in 2007 to 0.829 in 2010. Also, they had lower average efficiency than EU28 average through the entire sample period but follow Average pattern although at a lower level. Even though they established national fiscal rules and managed to improve efficiency in implementing them, the discrepancy of efficiency scores between Founders and 1973-1995 groups broadened. The New Member is the largest and most heterogeneous group, consisted of countries different by the economic performance that introduced and reformed national rules throughout the observed period, considering also supranational rules. Group Founders had the most stable average efficiency score ranging from 0.891 to 0.927. The crisis did not influence in a significant mode to this group in fulfilling fiscal rules. Group 1973-1995 had the greatest average efficiency scores until 2007 when it was 0.938. After that, it declined to the levels below Founders average efficiency and it remained at such level until 2015 when it became almost equal as Founders'. In accordance with the pattern of the overall average efficiency, all three groups exhibit an increase in efficiency after 2012.

Using the efficient projections of DMUs, we detected input(s) and output(s) with greatest deviations from the efficient projection for each DMU in each year. These variables are the greatest sources of inefficiency. We observed the results for a particular country, and variables that were most frequently recognized as sources of inefficiency throughout the analyzed period, are shown in the second last column of Table 3. For example, in the column *Inefficiency* of Table 3 Austria (AT) has an indicator I2/O1 which shows that Austria most frequently had greatest deviations in input 2 (deficit/surplus) and output 1 (revenue). The similar conclusion can be withdrawn for other countries from the sample. Deficit/surplus seems to be the most significant area of input inefficiency throughout the whole period for all countries. On the other hand, variables with the smallest deviation are recognized as strengths and presented in the last column of Table 3. Most of the countries had the smallest deviations in input 3 (expenditures) and output 3 (employment rate).

5. Conclusion

There is a wide discussion on monetary and fiscal policy in the European Union, which includes the efficiency of both national and supranational fiscal rules. In this paper we observed fiscal rules in EU28, covering the 2000-2016 period, using Data Envelopment Analyses (DEA) method. The main findings are as follows: (1) the influence of great recession is evident from 2008 when efficiency in conducting fiscal rules started to decline; (2) on average level, 13 countries had lower efficiency while 15 of them had higher efficiency; (3) the analysis of national rules revealed that New member countries generally had more fiscal rules with the emphasis on budget balance rule and expenditure rule; (4) deficit and revenue are areas of inefficiency which are good starting points for improvements. Further research thereafter should include second stage analysis using regression models which would reveal significant contextual variables.

REFERENCES

Afonso, A., Schuknecht, L., Tanzi, V. (2006) ***Public sector efficiency evidence for new EU member states and emerging markets.*** ECB working paper series No. 581 / January 2006. https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp581.pdf?2c269a35246a4084e4df9e077ede9bc1 (accessed 27 March 2018.)

Badinger, H., Reuter, W. H., (2017): ***Determinants of Fiscal Rules***, Applied Economic Letters, 24:3, 154-158

Banker, R. D., Charnes, A., Cooper, W. W. (1984): ***Some Models for Estimating Technical and Scale Inefficiencies in Data Envelopment Analysis***. Management Science, Vol. 30 (9), pp 1078–1092, Begg, I. (2017): ***Fiscal and other rules in EU economic governance: helpful, largely irrelevant or unenforceable***, National Institute Economic Review, ISSN 0027-9501, http://eprints.lse.ac.uk/68915/ (accessed 27 March 2018.)

Bergman, M. U., Hutchinson, M. M., Hougaard Jensen, E. S. (2016) ***Promoting sustainable public finances in the European Union: The role of fiscal rules and government efficiency***, European Journal of Political Economy 44 (2016) 1-19

Charnes A, Cooper WW (1962): ***Programming with linear fractional functionals***, Nav Res Log 9(3-4):181-186.

Charnes, A., Cooper, W.W., Rhodes, E. (1978): ***Measuring the efficiency of decision making units***, European Journal of Operations Research, Vol. 2, Issue 6, pp. 429-444

Cooper, W.W., Seiford, L.M., Zhu, J. (2011): ***Data Envelopment Analysis: History, Models, and Interpretations***, in: Handbook on Data Envelopment Analysis: International Series in Operations Research & Management Science, Cooper, W.W., Seiford, L.M., Zhu, J. (eds.) Springer 2011, pp. 1-39

Emrouznejad, A., Amin G.R. (2009): ***DEA models for ratio data: Convexity consideration***. Appl Math Model, Vol. 2009, No. 33, pp. 486–498.

European Commission (online) 1) ***Stability and Growth Pact***, https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/stability-and-growth-pact_en (accessed 9 March 2018.)

European Commission (online) 2) ***The Fiscal Compact – Taking Stock***, https://ec.europa.eu/info/publications/fiscal-compact-taking-stock_en (accessed 9 March 2018.)

European Commission (online) 3) ***Numerical Fiscal Rules in EU Member Countries***, https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/fiscal-governance-eu-member-states/numerical-fiscal-rules-eu-member-countries_en (9 March 2018.)

Kuosmannen, T. (2009): ***Data Envelopment Analysis with Missing Data***. J Oper Res Soc Vol 12, No. 60, pp. 1767-1774.

Kyriacou, A., Muinelo-Gallo, L., Roca-Sagalés, O. (2015): ***On the redistributive efficiency of fiscal policy***, MPRA Paper No. 63276, http://mpra.ub.uni-muenchen.de/63276/1/MPRA_paper_63276.pdf (accessed 9 March 2018.)

Kopits, G., Symansky, S. (1998.): ***Fiscal Rules***, IMF Occasional Paper 162, IMF, Washington D.C.

Larch, M., Braendle, T. (2018): ***Independent Fiscal Councils: Neglected Siblings of Independent Central Banks? An EU Perspective***, Journal of Common Market Studies 2018 Volume 56, Number 2, pp. 267-283

Lledó, V., Yoon, S., Fang, X., Mbaye, S., Kim, Y. (2017): ***Fiscal Rules at a Glance***, https://www.imf.org/external/datamapper/fiscalrules/Fiscal%20Rules%20at%20a%20Glance%20-%20Background%20Paper.pdf (accessed 9 March 2018)

Malmquist, S. (1953): ***Index Numbers and Indifference Surfaces***, Trabajos de Estadistica 4, 209-242.

Mandl, U., Dierx, A., Ilzkovitz, F. (2008): The effectiveness and efficiency of public spending. European Economy, Economic Papers 301, (February 2008). (accessed 27 March 2018.) http://ec.europa.eu/economy_finance/publications/pages/publication11902_en.pdf

Pastor, J. T., Ruiz, J. L. (2007): ***Variables With Negative Values in DEA***, in: Modelling Data Irregularities And Structural Complexities in Data Envelopment Analysis, Cook, W., Zhu, J. (eds.). Springer, e–book, pp. 63–84.

Sacchi, A., Salotti, S. (2014): ***The impact of national fiscal rules on the stabilisation function of fiscal policy***, MPRA Paper No. 56982, http://mpra.ub.uni-muenchen.de/56982/1/MPRA_paper_56982.pdf (accessed 9 March 2018)

Schaechter, A., Kinda, T., Budina, N., Weber, A. (2012): ***Fiscal Rules in Response to the Crisis – Toward the "Next-Generation" Rules. A New Dataset***, IMF WP/12/187, http://www.imf.org/external/pubs/ft/wp/2012/wp12187.pdf (accessed 9 March 2018)

Lana Kordić, PhD, Assistant Professor
University of Split, Faculty of Economics, Business and Tourism
Cvite Fiskovića 5, 21000 Split
Phone: 0038521430753 Fax: 0038521430701
E-mail address: lana.kordic@efst.hr

Josip Visković, PhD, Assistant Professor
University of Split, Faculty of Economics, Business and Tourism
Cvite Fiskovića 5, 21000 Split
Phone: 0038521430751 Fax: 0038521430701
E-mail address: josip.viskovic@efst.hr

INVESTIGATING EFFICIENCY OF CROATIAN BANKING SECTOR - FURTHER STEPS TOWARDS MORE EFFICIENT BANKS

ISPITIVANJE EFIKASNOSTI HRVATSKOG BANKARSKOG SEKTORA - DALJNJI KORACI PREMA EFIKASNIJIM BANKAMA

ABSTRACT

Croatian financial system is a bank-based system, where banks play a dominant role in the financing of the economy. Despite the shrinking number of banks, they still need to be competitive in order to keep their position in the market. Moreover, today's important factor for success lies in, among others, greater efficiency as it plays a significant role in sustaining growth and competitiveness. Therefore, apprehension of a bank's relative efficiency performance in comparison to the market is important for decision makers and for that reason it is essential to keep track of efficiency.

The aim of this paper is to scrutinize the efficiency of Croatian banks in 2016 in order to detect current level of efficiency, leaders on the market and efficiency targets for inputs and outputs of relatively inefficient banks. Certain insufficiencies in the accounting indicators approach to efficiency measurement can be eliminated using the Data Envelopment Analysis (DEA) approach. Therefore, this paper uses the input-oriented constant returns to scale (CCR) and input-oriented variable returns to scale (BCC) DEA models to estimate overall technical efficiency (OTE), pure technical efficiency (PTE) and scale efficiency (SE). For defining input and output variables operating approach is applied.

The results for 2016 reveal that average overall technical efficiency and pure technical efficiency are between 0.88 and 0.91, due to different scale efficiency. The group of large banks proved to be more efficient than medium and small sized banks, while no significant difference was proved considering ownership of banks. Furthermore, identifying top performance on the market (Banka Kovanica and Zagrebačka banka), paper provides information on different ways to raise efficiency for relatively inefficient banks.

Key words: *banking sector, technical efficiency, scale efficiency, DEA technique.*

SAŽETAK

Hrvatski financijski sustav je bankovno orijentiran sustav, u kojem banke imaju dominantnu ulogu u financiranju gospodarstva. Unatoč smanjenju njihovog broja tijekom godina, banke i dalje moraju biti konkurentne kako bi zadržale svoju poziciju na tržištu. Štoviše, danas se kao važan čimbenik

uspjeha, među ostalim, smatra i veća efikasnost, koja je jedna od ključnih determinanti održavanja rasta i konkurentnosti.
Cilj ovog rada je analizirati efikasnost hrvatskih banaka u 2016. godini, kako bi se utvrdila relativna efikasnost banaka, primjeri dobrog poslovanja te postavile ciljane vrijednosti ulaznih i izlaznih faktora za relativno neefikasne banke. Nedostaci korištenja računovodstvenih omjera za mjerenje efikasnosti mogu biti uklonjeni korištenjem Analize omeđivanja podataka (AOMP). Stoga, ovo istraživanje koristi sljedeće AOMP modele: CCR (polazeći od pretpostavke fiksnih prinosa) i BCC (polazeći od pretpostavke varijabilnih prinosa) modele orijentirane na minimiziranje ulaznih podataka, s ciljem utvrđivanja ukupne tehničke efikasnosti, „čiste" tehničke efikasnosti i efikasnosti po obujmu poslovanja. Pritom se za definiranje ulaznih i izlaznih varijabli primijenio operativni pristup.
Rezultati analize u 2016. godini otkrivaju kako se, zbog postojanja efikasnosti po obujmu djelovanja, ukupna i „čista" tehnička efikasnost kreću između 0,88 i 0,91. Grupa velikih banaka efikasnija je od srednje velikih i malih banaka, dok se razlika u vlasništvu banaka nije pokazala statistički značajnom. Nadalje, identificirajući primjere dobrog poslovanja (Banka Kovanica i Zagrebačka banka), studija pruža informacije o različitim načinima poboljšanja efikasnosti za relativno neefikasne banke.

Ključne riječi: *bankovni sektor, tehnička efikasnost, efikasnost po obujmu djelovanja, AOMP.*

1. Introduction

Besides its importance for transferring funds, the stability of banking sector is a prerequisite for conducting monetary policy and enabling financial stability. Therefore it is important that banks are well capitalized and profitable. Besides, in order to be competitive and profitable it is important that they run their business efficiently.

Croatian banking sector experienced process of bank privatization at the end of the 20th century, mostly by acquisitions of domestic by foreign banks. The privatization process generated technological progress, financial innovations, better risk management, more competition and generally higher level of efficiency i.e. privatisation did matter (Bonin et al., 2005, 2171-2172). Still, small domestic banks in Croatia as well as in other transition countries were not able to maintain newly established standards considering efficiency and in their attempt many of them have failed. Consequently, the number of banks after peaking in 1997 (61 bank) began to decline falling in 2017 to only 26 banks. Most of the defaulted banks were small domestic banks whose number has diminished to only 8 in 2016. Accordingly, small domestic banks were not able to deal with higher efficiency standards i.e. they may have chosen inappropriate modus. Factors such as higher central bank standards and financial crisis have additionally aggravated the difficult situation of small domestic banks in comparison to larger and medium banks.

The aim of this paper is by applying Data Envelopment Analysis (DEA) and by scrutinizing efficiency in 2016 to detect current level of efficiency, leaders on the market and efficiency targets for inputs and outputs of relatively inefficient banks. Also, similarly as in paper of Toçi (2009, 26) and Andries and Ursu (2016, 493-494), we will, by identifying top performance on the market, give recommendations what relatively less efficient banks in Croatia need to improve in order to increase their technical and scale efficiency. Finally, we will, considering efficiency, test the importance of different structure of banks (size and ownership).

The rest of the paper is organized as follows. Next section presents the literature review of empirical research considering bank efficiency and gives emphasis on the importance of size and ownership on banking efficiency. Third section explains methodology and data sampling, while section four reveals and discusses empirical results. Last section encompasses conclusion and proposals for future research.

2. Literature review

Ownership is being recognized as one the most important factors considering bank efficiency in many papers, especially regarding transition countries (for example Jemrić and Vujčić, 2002, 191; Weill, 2003, 569; Fries and Taci, 2005, 18; Nitoi, 2009, 14). Moreover, privatisation process that was conducted in practically all transition countries was confirmed as a factor that contributed to development of banking practices and generally banking in these countries. More specifically, Bonin et al. (2005, 2171-2172), tested the impact of privatization in selected transition countries: Bulgaria, the Czech Republic, Croatia, Hungary, Poland and Romania. Using regression analysis on traditional measures of efficiency, their results confirmed that privatization matters i.e. they have found that foreign-owned banks were most efficient and government-owned banks were least efficient. Moreover, they have concluded that the timing of privatization matter to performance as well, as early-privatized banks proved to be more efficient than later-privatized banks.

Considering the ownership-efficiency relationship, there are two main theories i.e. hypotheses that propose domestic i.e. foreign ownership. These are home field advantage hypothesis and global advantage hypothesis. According to home field advantage hypothesis domestic institutions are generally more efficient than foreign, because of organizational diseconomies to operating or monitoring an institution from a distance. Also, for foreign banks it is difficult to establish and maintain retail deposit and lending relationship with households, because of the absence of local information and local focus. Similarly, differences in culture, language, currency and in regulatory and supervisory environment could also occur as disadvantage for foreign banks. Under the global advantage hypothesis some foreign institutions are able to overcome these disadvantages and operate more efficiently than domestic institutions. Higher efficiency is achieved through lowering costs by superior managerial skills or best-practice policies and procedures over more resources, or by improving revenues by superior investment or risk management skills and by providing superior service quality/variety to customers (Berger et al., 2000, 26-27). In researches considering this topic in transition countries global advantage hypothesis was confirmed.

According to the above, Weill (2003, 569), using Stochastic Frontier Analysis (SFA) method to compute cost efficiency scores for banks in Czech Republic and Poland, found that on average foreign-owned banks are more efficient than domestic-owned banks. Moreover, results have interestingly shown that better efficiency does not result from differences in the scale of operations or the structure of activities. Similarly, Fries and Taci (2005, 18) using SFA regarding cost efficiency, examined efficiency of 289 banks in 15 east European countries over the period 1994-2001. Their results show that the importance of ownership i.e. those banking systems in which foreign-owned banks have a larger share of total assets have lower costs. Moreover, they concluded that private banks are more efficient than state-owned banks and foreign owned private banks are the most efficient, while domestic owned banks are the least efficient. Paper by Matoušek and Taci (2005, 241-242), examining the cost efficiency of the Czech banking system, concluded that foreign banks were on average more efficient than other banks. Also, using Distribution Free Approach (DFA) method, obtained results indicated that the increase in efficiency of banks shows that the banks become more alike over time and that reflects the forced exit of less efficient banks from the market. They have also pointed out the importance of more liberal policy and early privatisation of state-owned commercial banks that would have further enhanced the efficiency in the banking system. Furthermore, Nitoi (2009, 11-14) measuring efficiency on the sample of 15 commercial banks in Romania also pointed out the role of ownership. Based on the results he stated that foreign owned banks have higher level of efficiency when compared with local banks showing very low cost efficiency of domestic banks. He concluded that small domestic banks need to improve their efficiency primarily through appropriate management policy. Toçi (2009, 25) employing the DEA technique explored intermediation efficiency of banks in four SEE countries over the period 2002-2005. He proved that foreign and large banks are more efficient than domestic small banks and more important the efficiency gap considering ownership has widened over time. Additionally, he concluded that efficiency generally showed only marginal improvement over time, what was mainly due to technology shift of few best performers. Inefficiencies also resulted from substantial scale and cost inefficiencies as well as from lending shortfalls and regulatory measures imposed by the central banks.

Besides research in transition countries similar research were conducted for developing countries as well. The results were mostly confirming global advantage hypothesis. Accordingly, Chen and Yeh (2000, 107-108), applying the DEA methodology on 34 commercial banks in Taiwan, have emphasized the role of ownership. Namely, they have showed that publicly-owned banks have lower level of technical efficiency than private banks. This is due to pure technical rather than scale efficiency i.e. efficiency differences stem from technical progress and production technology. However, due to specific conditions in some countries, home field advantage hypothesis may also be confirmed. Namely, Staub et al. (2010, 18-19) investigated the cost, technical and allocative efficiency for Brazilian banks in the period 2000-2007. Applying DEA methodology, they showed that the foreign banks in Brazil are less cost efficient than the state-owned banks, what is in line with home field advantage hypothesis. Additionally, they have also shown that macroeconomic shocks and changes in financial regulation seem to affect the efficiency as well as nonperforming loans.

Considering other researches on banking efficiency we accentuate three that consider importance of financial crisis on efficiency and importance of micro and macroeconomic factors. Andrie□ and Cocriş (2010, 68-72), using both DEA and SFA method, have analysed the efficiency of the main banks in Romania, the Czech Republic and Hungary for the period 2000-2006. They have confirmed that level of efficiency is influenced by a micro and macroeconomic factors. Moreover, they showed that countries banking sectors are inefficient from the perspective of costs as well as considering technical efficiency. This means that the bank services and products offered are very expensive. In order to improve efficiency banks should improve quality of assets by developing lending process and reducing nonperforming loans. Additionally, administrative costs are to be reduced. Besides micro factors, bank size, annual inflation rate, interest rate, liberalisation level and form of ownership are also proved to be important determinants of efficiency. Moreover, Řepková (2014, 592-594), applying DEA analysis on Czech banking sector for the period 2003-2012, showed that the group of large banks was less efficient than other banks. This interesting result was explained by the fact that large banks during crisis had the excess of deposits in balance sheet, what negatively reflected to net interest income because of increasing interest costs of banks. Also, author concluded that large banks did not manage appropriate size of operations i.e. for example they were not prone to approve risky loans due to unstable economic environment. More recently, Andries and Ursu (2016, 489-494) have analysed the efficiency of 783 commercial banks from 27 EU member states during the period 2004–2010. Their results, obtained using SFA, have showed that the crisis has a significant and positive impact on both the profit and cost inefficiencies, what implies that financial crisis has a negative impact on banking efficiency. Namely, economic crisis affected the borrowers' ability to repay loans forcing the banks to make provisions for credit losses. Additionally, their results showed that large publicly traded banks, operating in old members of the EU, were more affected by economic crisis considering efficiency.
Finally, we would like to point out that the first use of DEA for banking sector in Croatia was carried out by Jemrić and Vujčić (2002, 190-192). They have analysed bank efficiency in Croatia for the period from 1995 to 2000, separately for each year. Their results showed that on average foreign as well as large banks are the most efficient. Moreover, authors also concluded that equalization in terms of average efficiency, both between peer groups and within peer groups of banks, has occurred as well. Besides paper of Jemrić and Vujčić (2002), no other research on examining banking efficiency using DEA approach in Croatia was carried out, what makes an

opportunity to contribute to existing knowledge. Additionally, by scrutinizing 2016 efficiency scores we will give recommendations for relatively less efficient banks in Croatia what need to be improved in order to increase their efficiency.

3. Methodology and data sample

In existing literature there are different approaches of measuring the efficiency of financial institutions as the consequence of different data use and methodological framework for analysis. Previously it was mainly analysed by using indicators and calculating accounting ratios. The most significant profitability ratios were ROA, ROE and cost to income ratios. However, certain insufficiencies in the accounting indicators approach to efficiency measurement were eliminated using the DEA approach (Tuškan and Stojanović, 2016, 50). Moreover, interesting and useful results emanate from research results acquired by DEA methodology. Researches on the performance of financial institutions focus especially on the frontier efficiency, a concept measuring the performance deviations of some institution from the efficiency frontier, already built on the basis of best practices. The frontier efficiency measures how efficient the financial institution is compared to the most efficient institution on the market. The frontier quantifies the cost efficiency of financial institutions with a greater precision than financial rates (Andries and Ursu, 2016, 486). DEA is a non-parametric technique, while there is also statistical approach in determining efficiency frontier, based on econometric models (Stochastic Frontier Approach and Deterministic Frontier Approach). Advantages of DEA in relation to econometric models is that it does not require specific functions of providing services, it is non-parametric, and it provides freedom to define multiple inputs and outputs of different units.

This paper analyses the efficiency of Croatian banking sector in 2016 using different input oriented DEA models. In order to analyse overall technical efficiency this study was conducted using Charnes – Cooper – Rhodes (CCR) model which assumes constant returns to the scale (CRS). Furthermore, in order to investigate the causes of overall technical inefficiency Banker – Charnes – Cooper (BCC) model, which assumes variable returns to the scale (VRS), was used as well.

Data for all the banks that are currently operating in Croatia are taken from profit and loss account of banks published in Bank bulletin, regular publication of Croatian National Bank (CNB). DEA models can, as in Jemrić and Vujčić (2002, 179-180), be used under two approaches: operating approach and intermediation approach. They reflect two different ways of efficiency evaluation. Due to data availability we have oriented to operating approach. Therefore, the choice of inputs and outputs was following. We have employed three inputs: interest costs, commission and fee costs, and general and administrative costs and amortization; and two outputs: interest revenues and non-interest revenues i.e. commission and fee revenues. The efficiency analysis was conducted using computer software Frontier Analyst Banxia Software and the results of DEA are summarized in next section.

4. Results discussion

In order to detect how banks are functioning relative to others in Croatian banking sector, three efficiency components are presented in Table 1. Each bank is assigned a value within interval (0,1). Value 1 represents relatively efficient bank, while the bank with value less than 1 is inefficient one (Gardijan and Kojić 2012, 204).

As can be observed from the first column, this model shows that 11 of 24 banks are overall technically efficient in 2016. They received a score of one and they create an efficient frontier against which all other banks are compared. In order to detect whether overall technical inefficiency is due to inefficient management or inappropriate scale size, second and third columns present pure technical efficiency and scale efficiency scores. According to BCC model (second column), 12 banks are pure technically efficient. Thus it is possible to conclude that overall technical inefficiency of Samoborska banka is due to the scale-size. Therefore, Samoborska banka can improve its efficiency adopting new technology or new service production processes. Pure technical inefficiency of other inefficient banks is a managerial problem, where reduction of inputs is required for the given level of outputs (since we run an input oriented DEA models). For example, most inefficient banks in 2016, Veneto banka, can improve its pure technical efficiency by reducing certain inputs by 10.4% (1-0.896). Still, it needs to adopt new technology or production process to become overall technically efficient, because it is scale inefficient as well.

Table 1 *OTE, PTE and SE of Croatian's banks in 2016*

Banks	(1.1) OTE	(2.1) PTE	(3.1) SE	Banks	(1.2) OTE	(2.2) PTE	(3.2) SE
Addiko Bank	0.752	0.759	0.991	PBZ	1	1	1
Croatia banka	0.834	0.839	0.994	Partner banka	0.833	0.895	0.931
Erste&Steiermarkische Bank	1	1	1	Podravska banka	0.765	0.806	0.949
HPB	1	1	1	Primorska banka	1	1	1
Imex banka	1	1	1	RBA	1	1	1
Istarska kreditna banka Umag	1	1	1	Sberbank	0.823	0.84	0.980
Jadranska banka	0.756	0.768	0.984	Samoborska banka	0.770	1	0.77
Karlovačka banka	0.896	0.901	0.994	Slatinska banka	0.739	0.802	0.921
Kentbank	0.863	0.865	0.998	Splitska banka	1	1	1
Banka Kovanica	1	1	1	Vaba	0.694	0.754	0.920
KBZ	0.747	0.788	0.948	Veneto banka	0.708	0.896	0.790
OTP banka Hrvatska	1	1	1	ZABA	1	1	1
				MEAN	0.883	0.910	0.965

Source: author's calculation

In order to test the importance of ownership and size considering efficiency, F-test of difference between the three independent samples is used (Table 2). F-test can be used equivalently as t-test and because it is robust to heteroscedasticity of the variance between samples, it is not necessary to conduct the test of homogeneity of variances. According to Table 2 it can be concluded that there is, considering the size of banks, statistically significant ($p < 0.01$) difference in scale efficiency and in overall technical efficiency ($p < 0.1$), what is in line with previous researches. Still, we found no statistically significant difference regarding the ownership of banks. This implies that inefficient domestic banks were forced to exit from the market and that remaining domestic banks have improved their efficiency over time. This result is in line with the research of Matoušek and Taci (2005, 241-242).

Table 2 *Differences in relative efficiency according to size and ownership with F-test of differences in means*

Banks by size				Banks by ownership			
	OTE	PTE	SE		OTE	PTE	SE
Large	0.959	0.960	0.998	Foreign	0.900	0.923	0.973
Medium	0.941	0.947	0.993	Domestic private	0.855	0.912	0.938
Small	0.840	0.888	0.947	Domestic public	0.863	0.869	0.993
F-test	2.972	1.466	48.336	F-test	0.363	0.364	1.071
p-value	0.073	0.253	0.0	p-value	0.7	0.699	0.361

Source: author's calculation

After analysis of the current level of efficiency, next step is to analyse leaders on the market (Table 3) in order to detect ways to raise efficiency of inefficient banks (Table 4). Emphasis was placed on pure technical efficiency, highlighting managerial inefficiency.

***Table 3** Referencing units (input oriented BCC model) for 2016*

Reference set	Referencing units
Banka Kovanica	Croatia banka, Jadranska banka, Kentbank, KBZ, Partner banka, Podravska banka, Sberbank, Slatinska banka, Vaba, Veneto banka
ZABA	Addiko Bank, Croatia banka, Jadranska banka, Karlovačka banka, Kentbank, KBZ, Partner banka, Slatinska banka, Vaba
Primorska banka	Addiko Bank, Jadranska banka, Karlovačka banka, Kentbank, Partner banka, Slatinska banka, Vaba, Veneto banka
Erste&Steiermarkische Bank	KBZ, Podravska banka, Sberbank, Slatinska banka
PBZ	Karlovačka banka, Podravska banka, Sberbank
Samoborska banka	KBZ, Podravska banka, Slatinska banka
Imex banka	Croatia banka, Jadranska banka
Istarska kreditna banka Umag	Addiko Bank, Kentbank
HPB	Karlovačka banka
Splitska banka	Addiko Bank

Source: author's calculation

Based on the set of reference values, Banka Kovanica and Zagrebačka banka (ZABA) turn out to be leaders with best performance. They are on the best practice frontier. They present reference set which is benchmark for improving efficiency of inefficient ones (referencing units). For example, Banka Kovanica is a benchmark for 10 banks in the sample. Additionally, Veneto banka has to correspond efficient institutions, Banka Kovanica and Primorska banka.

***Table 4** Target values for inputs and outputs of relative inefficient banks (% of changes)*

Banks	Inputs			Outputs	
	Interest cost	Commission and fees costs	General administrative costs	Interest revenues	Commission and fees income
Addiko Bank	-24.1	-24.1	-24.1	1.6	0
Croatia banka	-19.2	-16.1	-16.1	0	51.9
Erste&Steiermarkische Bank	0	0	0	0	0
HPB	0	0	0	0	0
Imex banka	0	0	0	0	0
Istarska kreditna banka Umag	0	0	0	0	0
Jadranska banka	-23.2	-23.2	-26.2	0	0
Karlovačka banka	-9.9	-9.9	-9.9	1.6	0
Kentbank	-13.5	-13.5	-32.7	0	0
Banka Kovanica	0	0	0	0	0
KBZ	-21.2	-32.4	-21.2	0	0
OTP banka Hrvatska	0	0	0	0	0
PBZ	0	0	0	0	0
Partner banka	-27.7	-10.5	-10.5	0	27.9
Podravska banka	-19.4	-20.8	-19.4	0	0
Primorska banka	0	0	0	0	0
RBA	0	0	0	0	0

Banks	Inputs			Outputs	
	Interest cost	Commission and fees costs	General administrative costs	Interest revenues	Commission and fees income
Sberbank	-16	-26.6	-16	0	12.3
Samoborska banka	0	0	0	0	0
Slatinska banka	-19.8	-19.8	-19.8	0	0
Splitska banka	0	0	0	0	0
Vaba	-26.4	-24.6	-24.6	0	101.2
Veneto banka	-36.7	-10.4	-49.4	0	26.2
ZABA	0	0	0	0	0

Source: author's calculation

Target values of efficient banks are equivalent to their original inputs and outputs. Using the example of Jadranska banka, it can be concluded that with existing outputs it needs to reduce inputs by 23.2 and 26.2 percent to become pure technically efficient. Furthermore, despite the input orientation, Veneto banka, in order to achieve efficient score, needs to reduce the number of all inputs for 36.7, 10.4 and 49.4 percent and in parallel increase the commission and fees income for 26.2 percent. Still, managers should be aware that some of these options may not be practical.

5. Conclusion

The aim of this paper was to analyse efficiency of 24 banks in Croatian banking sector using DEA approach. Idea was to study data for 2016 and to give recommendations what needs to be improved in order to achieve higher level of efficiency. For that purpose estimates of efficiency have been obtained by input oriented CCR and BCC models, using operating approach in defining inputs and outputs.

The results indicate that the level of overall technical efficiency, pure tehnical efficiency and scale efficiency of Croatian banks is 0.883, 0.910 and 0.965 respectively. Furthermore, we have concluded that there is, considering the size of banks, statistically significance ($p < 0.01$) difference in scale efficiency and in overall technical efficiency ($p < 0.1$). The group of large banks proved to be more efficient than others. Therefore, the study suggests, that small banks should focus on improving their scale efficiency by increasing customer base, cross-selling and by technical progress that will results in increasing the number and quality of services. This can be achieved through mergers of small domestic banks. However, in contrast to previous research, our results show no statistically significant difference regarding the ownership of banks. This implies that domestic banks have improved their efficiency over time, enhancing managerial practices, customer relationships, organizational cultures and similar. Additionally, analysing pure technical efficiency Banka Kovanica and Zagrebačka banka turn out to be leaders which represent the benchmark for improving management efficiency of less efficient banks.

Finally, considering recommendations for future research, the focus should be put on analysis of the Croatian banking sector efficiency evolvement over time. This could contribute to better understanding of the circumstances that affect efficiency and to better recommendations for bank's decision makers.

REFERENCES

Andrie□, A. M., and Cocriş, V. (2010): ***A comparative analysis of the efficiency of Romanian banks,*** Romanian Journal of Economic Forecasting, Vol. 4, pp. 54–75

Andrie□, A. M., and Ursu, S. G. (2016): ***Financial crisis and bank efficiency: An empirical study of European banks,*** Economic Research – Ekonomska istraživanja, Vol. 29, No. 1, pp. 485-497

Berger, A., DeYoung, R., Genay, H. and Udell, G. (2000): ***Globalisation of financial institutions: Evidence from cross-border banking performance,*** Brookings-Wharton Papers on Financial Services, Vol. 3, pp. 23-158

Bonin, J.P., Hasan, I. and Wachtel, P. (2005): ***Bank performance, efficiency and ownership in transition countries,*** Journal of Banking and Finance, Vol. 29, No. 1, pp. 31-53

Chen, T. Y. and Yeh, T. L. (2000): ***A Measurement of Bank Efficiency, Ownership and Productivity Changes in Taiwan,*** Service Industries Journal, Vol. 20, No. 1, pp. 95-109

Fries, S. and Taci. A. (2005): ***Cost efficiency of banks in transition: Evidence from 289 banks in 15 post-communist countries,*** Journal of Banking and Finance, Vol. 29, No. 1, pp. 55–81

Gardijan, M. and Kojić, V. (2012): ***DEA-based investment strategy and its application in the Croatian stock market***, Croatian Operational Research Review (CRORR), Vol. 3, pp. 203-212

Jemrić, I. and Vujčić, B. (2002): ***Efficiency of Banks in Croatia: A DEA Approach,*** Comparative Economic Studies, Vol. 44, No. 2-3, pp. 169-193

Matousek, R. and Taci, A. (2005): ***Efficiency in Banking: Empirical Evidence from the Czech Republic,*** Economics of Planning, Vol. 37, No. 3-4, pp. 225-244

Nițoi, M. (2009): ***Efficiency in the Romanian Banking System. An Application of the Data Envelopment Analysis,*** Revista Romana de Economie, Vol. 28, No. 2, pp. 1-15

Řepková, I. (2014): ***Efficiency of the Czech Banking Sector Employing the DEA Window Analysis Approach,*** Procedia Economics and Finance, Vol. 12, pp. 587-596

Staub, R. B., Souza, G. S. and Tabak, B. M. (2010): ***Evolution of bank efficiency in Brazil: A DEA approach*****,** European Journal of Operational Research, Vol. 202, No. 1, pp. 204-213

Toçi, V. Z. (2009): ***Efficiency of Banks in South-East Europe: with Special Reference to Kosovo***, Central Bank of the Republic of Kosovo, Working paper No. 4, pp. 1-36

Tuškan, B. and Stojanović, A. (2016): ***Measurement of cost efficiency in the European banking industry,*** Croatian Operational Research Review, CRORR, Vol. 7, pp. 47–66

Weill, L. (2003): ***Banking efficiency in transition economies: The role of foreign ownership,*** Economics of Transition, Vol. 11, No. 3, pp. 569 –592

Aleksandar Kovač, PhD student
University of Novi sad, Faculty of Economics Subotica
Segedinski put 9-11, 24 000 Subotica
Phone: +381 63 8778 471
E-mail address: aleksandar.kovac15@gmail.com

THE PROBLEM OF VALORIZATION OF NATURAL CAPITAL, ECONOMIC GROWTH AND SUSTAINABLE DEVELOPMENT

PROBLEM VALORIZACIJE PRIRODNOG KAPITALA, EKONOMSKOG RASTA I ODRŽIVOG RAZVOJA

ABSTRACT

The main focus of the paper is to point out the problem of continued economic growth with the sustainable development of the economy and society. By focusing on the theme of valorization of natural capital, economic growth and sustainable development, we come to the conclusion that primacy should not belong to any of these individual themes, but rather to the optimization of their mutual relationship. Optimizing relationships means achieving equilibrium between economic goals and sustainable development of the economy and society. A new concept is required to completely redefine the economic goals for sustainable global development. In any case, the awareness of the significance of this topic ignites the spark of enthusiasm for the possibility to find a compromise between sustainable development of the economy, the society and economic growth. Economic growth in the form of GDP is desirable, provided limited exploitation of natural resources and sustainable global development are respected. In addition to the two basic factors of the production process, the third factor – the factor of land - is gaining in importance in contemporary management conditions. That third factor should be viewed in its wider meaning, as a natural resource or capital, which includes water, air, arable and non-cultivated agricultural land, forests and other natural resources. So, it is a natural system without which life in general and economic activities would not be possible. The purpose of the paper is to emphasize the importance of causality of natural capital, economic growth and sustainable development as well as the problem of valorization. In this paper, theoretical and empirical research methods have been used. The aim of the paper is to present the specific features of the economic system of eastern Croatia with special emphasis on the directions of economic growth, taking into account the possibilities for sustainable development and the capacity of natural capital. The results of the research lead us to the conclusion that economic growth, without a carefully planned strategy of sustainable growth and valorization of natural capital, leads to stagnation and decline in the long run. Finally, it should be concluded that it is necessary to carefully plan sustainable returns in order to preserve natural capital and, on the other hand, to achieve the goal of economic policy – to provide economic growth. In no way should the exploitation of natural capital exceed the limits of an environmentally sustainable level. That is why it is necessary to valorize natural assets, determine the guidelines of economic growth and pave the way for the sustainable development of the economy and society as a whole.

Key words: *Natural Capital, Economic Growth, Sustainable Development of the Economy and Society, Equilibrium.*

SAŽETAK

Glavni fokus u radu jeste da se ukaže na problem očuvanja ekonomskog rasta uz održivi razvoj gospodarstva i društva. Baveći se temom valorizacije prirodnog kapitala, ekonomskog rasta i održivog razvoja dolazimo do zaključka da primat ne treba pripasti ni jednoj od ovih pojedinačnih *tema, nego upravo optimiziranju njihovih međusobnih odnosa. Optimiziranje odnosa podrazumijeva postizanje ravnoteže između ekonomskih ciljeva i održivog razvoja gospodarstva i društva. Potreban je novi koncept koji bi u potpunosti redefinirao ekonomske ciljeve u svrhu održivog globalnog razvoja. U svakom slučaju, svijest o značaju ove teme daje iskru entuzijazma da je moguće iznaći kompromis između održivog razvoja gospodarstva, društva i ekonomskog rasta. Ekonomski rast u vidu GDP-a jeste poželjan ali uz uvažavanje ograničenog iscrpljivanja prirodnih resursa odnosno održivog globalnog razvoja. Pored dva osnovna faktora procesa proizvodnje, sve veći značaj u suvremenim uvjetima gospodarenja dobija i treći faktor zemljište. Treći faktor treba promatrati u širem smislu riječi kao prirodni resurs ili kapital, koji podrazumijeva vodu, zrak, obradivo i neobradivo poljoprivredno zemljište, šume i druga prirodna bogatstva. Dakle, prirodni sustav bez koga život uopće i ekonomske aktivnosti ne bi bili mogući. Svrha rada jeste istaći značaj kauzaliteta prirodnog kapitala, ekonomskog rasta i održivog razvoja, te problem valorizacije. U radu su korištene metode teorijskog i empirijskog istraživanja. Cilj rada podrazumijeva prikaz specifičnosti gospodarskog sustava istočne Hrvatske, sa posebnim osvrtom na pravce ekonomskog rasta, uvažavajući mogućnosti održivog razvoja i prirodnog kapitala. Rezultati istraživanja navode nas na zaključak da ekonomski rast, bez pažljivo planirane strategije održivog rasta i valorizacije prirodnog kapitala, dugoročno dovodi do stagnacije i nazadovanja. Na kraju treba zaključiti kako je potrebno pažljivo projektovati održive prinose iz razloga očuvanja prirodnog kapitala a sa druge strane ostvariti cilj ekonomske politike u vidu rasta ekonomskih pokazatelja. Nikako se ne smije desiti da eksploatacija prirodnog kapitala prevazilazi granice ekološki održivog nivoa. Stoga je potrebno valorizirati prirodni kapital, odrediti smjernice ekonomskog rasta i utabati put održivog razvoja gospodarstva i društva u cjelini.*

Ključne riječi: *Prirodni kapital, Ekonomski rast, Održivi razvoj gospodarstva i društva, Ravnoteža.*

1. Introductory considerations

Given that the development of human civilization is an upward trend, it is expected that space and resources will continue to be exploited in the future. As the consumption of the environment and its resources has its own limits of growth, further development must be "sustainable development" (coordinated development) for a "sustainable future". The concept of sustainable development, established in 1989 and proclaimed by the so-called Bergen Declaration (1990), marks the possibility of further development for both the existing generations and the coming generations. This means that current the generation should plan and create itself an adequate quality of the environment, while making it possible for future generations to achieve the same quality. The philosophy of sustainable (harmonized) development is based on the principle of intergenerational equity. If this principle is not respected, then the environmental damage, which is done today passes on to the next generation. Further development depends on the biosphere and its ecosystems, especially on the people and their behavior in the environment. In this respect, parallel processes are as follows: sustainable energy, sustainable economy and sustainable industrial activities. The most important principle is the prediction and prevention of the causes of degradation. In the process of further development, the ecosystem approach will be applied enabling thus further functioning of the biosphere and its ecosystems despite ongoing human activities. Environmental awareness and ecological ethics are categories of human behavior within the environment. Ethics is a branch of philosophy that deals with human virtues and traits. It is closely related to the notion of morality, although it often differs in some ways. Ethics at the global level is reflected in the views of people of authority as well as international forums through their documents. The most important for the awakening of "new" ethics and ecological awareness is the idea of further sustainable development of the environment.

The quality of life and the quality of the environment are closely linked, though it cannot be said that they are reciprocal. In order for people to provide their own quality of life, they do so at the expense of the quality of the environment. In order to meet their needs, natural resources are exploited and huge areas of land are occupied. To achieve the *basic human needs* (Djukanovic, 2006, 48), man uses natural resources for food, water and housing (house, shelter), and for other physical, mental and intellectual needs. In order to satisfy his need for food, man changes nature:

- Destroys vegetation to gain space for agriculture,
- Favours certain species, creating cultural ecosystems with monocultures,
- Creates irrigation systems bringing water where it did not exist, thus changing and endangering the biodiversity and microclimate of the space,
- For better yields, uses chemicals for soil nutrition and pest control, increasingly more.
- To satisfy the need for water, man:
- Has designed and perfected installations that conduct water to great distances and high altitudes. This disrupts the quality of the environment since it changes it very much, tapping water sources, stopping surface flows,
- Uses water for various purposes, in a reversible cycle, contaminated, utilized and contaminated water returns to surface waters by disturbing biocycles and damaging biodiversity.
- Man uses water in all technological processes and from all of them, contaminated water is returned to the environment.

To meet the his housing needs man:

- Occupies spaces for their settlements, creating a modified space from the natural one,
- Spends a huge amount of resources and energy to build these settlements and make them function,
- Prallelly, he builds infrastructural systems whose construction and operation also require resources and energy,
- At every stage of construction and utilization of houses and the running of settlements and infrastructure systems and their parts he exploits or pollutes the environment.

In order to satisfy his remaining needs: *mental, physical and intellectual*, man over-utilizes natural resources. An excessive quantity is spent to satisfy those individuals who are categorized as rich, according to the criteria of the consumer society, though not only the rich individuals. Resources are spent excessively on luxury and often unnecessary things, as well as for the multiplication of the same item when even a single one would be quite sufficient.

Further economic, industrial and spatial development of the human society in the following decades, at the beginning and during the new era, at the end of the 20th century and at the beginning of the 21st century, during the *technological revolution,* must take into account the degraded areas, the spoilt and irrecoverable landscapes, the impoverished and infertile land, the unusable water in most rivers, the various waste materials loaded into the oceans, the constantly diminishing quantities of quality drinking water, those resources that have been spent for good, the extinct species of plant and animal life, the increasing number of people suffering health problems, the global climatic changes.

When in this way and in this manner we determine the state of the situation, it is clear that natural capital becomes the most important resource of a society, especially in the conditions of global uncontrolled spending of natural resources. At the same time, it is especially important to point out the problem of preserving economic growth with sustainable development of the economy and society. By focusing on the valorization of natural capital, economic growth and sustainable development, we come to the conclusion that none of the said topics is more important than the others; the optimization of their relations is what should be dealt with. Optimizing relationships means achieving a balance between economic goals and the sustainable development of the economy and society.

2. The concept of natural capital and its relationship with economic growth and sustainable development

Natural capital, in its totality, is no longer questioned in its relevance to society as a whole or to individuals who use them for personal purposes. Natural capital is the basic capital of a society or the last capital as it is called in the era of capitalization and the end of the transition. The problem of exploitation of common goods and the sustainability of their use is currently under the looking glass of different fields of science. Biologists and ecologists are viewing the problem from one angle. Economists and lawyers are approaching these issues from the point of view of their own science. The natural environment, the living space, biodiversity, natural resources, goods and capital represent a complex subject of research requiring a multidisciplinary approach.

Apart from individual economic or profit interests of the individual and the social and tax interests of the state when intervening for the protection and sustainable use, particularly of renewable common resources, there is room for ecologically sustainable operation of self-managing collective institutions, which have developed in the marginal areas of local communities throughout the centuries. Examples of the self-government of local communities in Eastern Croatia show the ability of collective ecologically sustainable and socially acceptable development of institutions for managing common resources. A special relationship for our valorization is the environment - development relationship.

The philosophy of sustainable development is based on the principle of intergenerational equity. If this principle is not respected, then the environmental damage that is being done today passes on to the next generation. Further development depends on the biosphere and its ecosystems, but mostly on people and their behavior in the environment. Sustainable development could be achieved by defining common goals and concrete measures within the framework of the concept of sustainability in combination with "national and international organizations and their mutual coordination and cooperation".

These are the recommendations of the Commission of the European Community ("Our Common Future", 1989), but the objectives and relations in the international community, mentioned here, have not been completely defined. It cannot be seen clearly, either from the Declaration, or from other documents, what kind of cooperation is meant and whether all the countries in this co-operation have the same status. Based on previous experience, it is known that domination of some countries has always existed. The richest countries have more options to bring about and implement development plans. On the other hand, less wealthy countries pay for technical or material assistance with their resources. Furthermore their tribute is also the one-way transfer of dirty technologies from the rich to the less wealthy. At the beginning of the new millennium, practically all countries are facing the problem of disposal and liquidation of hazardous waste including radioactive waste (Djukanovic, 2006, 51). Focusing on the theme of valorization of natural capital, economic growth and sustainable development, we come to the conclusion that none of the themes should have primacy over the others; it is the optimization of their mutual relations that will bring results.

3. Harmonized economic growth

Harmonized economic growth (production and consumption) implies moderate utilization of natural resources provided they are rationally handled when creating and using products for multipurpose or repeated use. In the economic development of each country, regardless of the level of technological development, risks are introduced into the environment. Less developed countries and developing countries are particularly jeopardized due to the consequences of their poor or outdated technology. The consequences of pollution are reflected globally, especially in climatic changes. Responsible participation of consumers, both large businesses and businesses in general, as well as individuals as customers, can have a major impact in order to adapt production programs to the idea of sustainable development. All consumers can, by their attitude, influence manufacturers to produce whatever is necessary harmlessly; such items whose production saves resources and creates the least possible amount of waste materials.

In future production (in the 21st century), "sustainability" will also mean reorientation of different businesses, industry in particular, to produce items, materials and equipment for repeated use. This would mean that after the expiry date the same item (product) may be reused for the same or another purpose: in the same form, supplemented and repaired, for some other purpose or as raw material (through recycling). For example, manufacturers of prefabricated building elements and other parts of structures (windows, doors, floors, roof structures, installations, etc.) will customize their products so that the same elements, after the possible demolition of the old building, may be reused in a new building, which means without the former construction waste through which many reusable resources were lost for good. Any new economic development plan, regardless of whether it refers to the opening of new complexes or individual facilities, or is meant to expand or reconstruct existing ones, must be subject to environmental control. This control will be carried out by a team of experts, but also by the citizens of the region where the plan is implemented. "For the purpose of protecting the environment, each state will, in accordance with its capabilities, extensively apply preventive measures. Where there is a danger from large or irreparable damage, the lack of complete scientific security will not be used as excuse for postponing cost-effective measures for the prevention of destruction of the environment. "

4. Principles of sustainable development

If the common policy of all European and other countries were truly established, without the dominance of the selected ones, the idea of *sustainable development* could provide positive resultssince the development of the society progresses steadily and each step may lead either to the top, or to a fall.

Precautionary principle: Precaution implies the preliminary study and assessment of possible adverse effects in the planning and realization of any development actions, such as: space utilization, resource use, biodiversity impact, pollutant input, and the like. In this principle, the rule is: "it is better to prevent it than to treat it".

Risk prediction: Prediction of risk is possible by prior assessment of the impact of the actions planned, especially in case of hazardous, toxic and other processes and substances, as well as procedures or construction of structures that can be sources of pollution or risk, based on experience from similar situations.

Prevention of causes: Prevention of cause is always the most important step in environmental protection. Later treatment of consequences is much more expensive in terms of possible damage to the environmental factors and financial effects. Preventing causes of some types of risks allows longer-term development of a particular environment. For example, since it is well-known that the most frequent and most severe pollution of surface waters from the inflow of wastewater from industry, thermo-electric power plants, urban sewers and runoff from agricultural land, technical and technological measures could prevent the causes of such pollution. This would mean mandatory pre-treatment of wastewater before its inflow into a recipient. If a decision is made to treat a polluted river, then the interventions will be so large that the pollutant industry will also suffer. The financial projection will be far greater than the pre-treatment of the pollution. A long period has to pass between the undertaking of actions for treating the river and the first effects, as well as for the succession of the living world.

New Evaluation of the Environment: New Environmental Assessment implies new approaches:

- Ecosystemic i.e. multidisciplinary,
- Ethical, to the environment and its factors, to the conservation of resources, the plant and animal world, its closer and further environment, towards other people, nations, generations,
- Turn to the future, with constant planning and leaving options for others to carry out their own development, and not to be managed by their ancestral generation,
- More moderate development, with a new paradigm of "survival" and a more modest living standard, rather than material growth and luxury,
- More moderate use of the environment, its resources, especially the non-renewable energy, preservation of biodiversity.

Change in behavior: Change in behavior is one of the important conditions for achieving the idea of sustainable development. In the current development of civilizations, especially of our industrial and post-industrial civilization, human behavior has been aggressive towards the environment. The change in behavior is related to a new philosophy of life, to a new guiding idea: survival. In this sense, from individual to international level, environmental behavior should be protectionist, with activities that will continuously develop, improve and enhance the living conditions in accordance with newly born, anthropogenic spaces. The principle of behavioral changes involves all kinds of behavior towards all elements that act in the environment, both large pollutants and others.

Changing the way of consumption: Changing the way of consumption is one of the most important principles because it is very important to change from the consumer mindset to moderate and modest spending of resources both in production and consumption, reduced to meeting the basic human needs and those that are necessary, free of luxury.

Establishing new demographic institutions and processes: As we explained above, demographic growth on the planet is a major factor in endangering the biosphere and its ecosystems. At the beginning of the 21st century the population is expected to increase from 6 billion to nearly 8 billion (*Our Common Failure*, 1987), the problem of providing food, housing and its equipment, work, clothing, transport and the overall development of the civilization will be huge. Therefore, both national and global family planning policies, education of less educated in developing countries and many other issues are important. Developing and disseminating knowledge relating to the links between demographic trends and sustainable development should also be one of the important programs (Djukanovic, 2006, 87). In the sustainable development of each country, *demographic dynamics* and its trends should be involved in environmental and development programs. This means that population programs must be applied in parallel with natural resource management programs, which should ensure sustainable use of natural resources and the quality of life and the quality of the environment. It is believed that the growth of population in the past, present and future within economic growth and development has not been fully explained and understood yet. In the past, it was conditioned by economic development and prosperity. However, rapid population growth in developing countries will affect both their growth and global prosperity. In many industrialized countries, the cause of concern is not only the economic consequences, but also the reason why people do not want to have children. International migration, both legal and illegal, also affects population growth in some countries, this being a new phenomenon taking place in new waves and there will be more of them in the coming years. In many countries there is great concern about this, especially because of the migration of people with high education. Underdeveloped countries are faced with a dilemma: what is it called and why human development, and how much this development should be affected by economic assistance. The question of what human assistance should be like and whether it encourages population growth much faster than prosperity, not just 1% a year but much closer to 3% per year. This means doubling in 24 to 72 years.

Processes parallel to sustainable development: further development of the environment implies further large-scale economic growth. In economic growth, there are three mutually conditioned factors:

1. Sustainable economy,
2. Sustainable us of energy and
3. Sustainable industrial activities.

All measures that would be taken into account in the three sectors to eliminate the causes would not, as in previous practice, be calculated as costs, but be evaluated as a positive effect, as it would allow for a more sustainable use of resources. What, at a given moment, may seem to be a huge expense, the later consequences of pollution and destruction and the resulting rehabilitation and reconstruction would accumulate much higher costs than the original ones. If resources were to be preserved and the degradation and pollution of the environment reduced, this would slash the costs in the next steps.

5. Principle of Sustainable Economy

It is believed that in the past fifty years the economy dictated both the development of each country and the global civilization. Market economy has spurred a great deal of spending of resources through material growth and consumer mentality, ignoring the negative and aggressive consequences on the environment. Water, air and land were considered to be "free" and unlimited assets. The concept of "sustainable economy" is harmonized with the complete idea of "sustainable development" (Djukanovic, 2006, 88). This means that, in the economy of the future, these principles will be respected and applied. It can be said that there has always been concern for the future and for future generations, but in the past it was narrowed down to concern, more or less, within one's own family. Concern existed for a nation or state as well. This concern about the future of the next generations is now different and more pronounced than before. Thinking about the sustainability of the quality of life and development only a few decades ahead might seem insufficient, or better to say, modest, but currently, due to the rapid pace of changes, far-sightedness is hardly possible. Compared to the rapid development of audiovisual electronics, it may be expected that some other type of technology, important for the survival of the human species and other organisms on the planet, will appear and develop.

6. Specificity of the economic system of eastern Croatia

Eastern Croatia is the most underdeveloped region in the Republic of Croatia. Eastern Croatia consists of 5 Slavonian counties:

1. Osijek-Baranja;
2. Vukovar-Srijem;
3. Brodsko-posavska;
4. Požega-Slavonia;
5. Virovitica - Podravina.

In recent years, the process of depopulation in the total of Croatia has been accelerated under the influence of both natural depopulation and migration depopulation, noting that the negative migration balance is rising faster in relation to the negative natural increase, and it is increasingly becoming the main determinant of the acceleration of the overall depopulation process in Croatia. At the same time, the situation in Croatia has been aggravated by the process of population aging conditioned by the aging of developmentally relevant age groups (working and fertile contingents of the population). In such developmental circumstances, stimulatingthe population policy becomes an important strategic policy for the further development of Croatia. A particularly difficult and worrying situation is in Eastern Croatia. As early as 2008, the third strong emigration wave from Slavonia started, which is still an ongoing process, taking the proportion of an exodus. Regardless of the number, this emigration wave is the most detrimental since it is recruited from the notoriously small and demographically elderly population. The beginning of significant emigration and natural reductions in individual counties was in tandem with the share of agriculture in the structure of the economy, it was emphasized in the lecture. Croatia did not have, and still does not have, a strategy of economic development. In order to boost economic development and stop emigration, a long-term strategy of economic development and strong state intervention is required. Halting both emigration and further decline in the number of births may not be expected from campaigns and occasional short-term interventions into the Slavonian economy.

The data on final production, i.e. gross domestic product *per capita*, well describe the current economic situation in Eastern Croatia. The economic situation may be better assessed from comparative analysis where the current situation is compared to the national average at different times. In the period from 2010 to 2017, the average GDP share of Eastern Croatia in Croatia's total GDP was 12.96%. The highest percentage was registered in 2002 (14.01%), and the lowest in 2010 (12.14%). In 2010, GDP in Eastern Croatia amounted to €5,393,423.87 and average GDP p/c was €6,067.57, which is significantly less than the national average (€10,057). Namely, GDP per capita can be considered as an indicator of a country's standard of living (although it is not perfect). The standard of living in Eastern Croatia is lower than the national average throughout the observed period. The highest value of GDP p/c among the counties of Eastern Croatia is in Osijek-Baranja (€7,539 in 2010), and the lowest in Brod-Posavina (€5,357).In the period observed, none of the Eastern Croatia counties exceeded the national average. The annual growth rate of GDP p/c at the national level was 6.67% and only 5.27%in Eastern Croatia. In spite of the growth in the value of final products and GDP p/c due to faster and steadier development of other counties, the lagging of Eastern Croatia has led to a decline in its share in national GDP during the observed period. Local self-government development indices, which take into account net income p/c, unemployment rate, local budget revenue p/c (without support from the state budget and from other sources), general population movements, education level and population density indicate the underdevelopment of the Eastern Croatia, since according to each criterion, each county of eastern Croatia (with a development index ranging from 20.51% to 52.88%) is below the national average. A development gap exists also within each county. The most developed settlement is the city of Virovitica, and the least developed is the municipality of Gradina. More precisely, in 2006-2009, the average per capita income in Virovitica was 2 to 3 times greater than in the municipality of Gradina, while at the same time the average income in Virovitica was below the national average. The reasons for this economic situation in Eastern Croatia are explained below. Since there is a complex relationship between the structure and the dynamics of the population on the one and economic performance on the other hand, the demographic analysis of the population of East Croatia follows.

7. Concluding considerations: Valorization of natural capital, economic growth and sustainable development of Eastern Croatia

Valorization of natural capital, economic growth and sustainable development of East Croatia represents the "determination or assessment" of the value of natural capital, i.e. assessment of the economic growth and sustainable development of Eastern Croatia based on the use of resources of natural capital of Eastern Croatia. The essence of natural capital valuation is reflected in objective consideration and assessment of the potential of the observed resource with the aim of determining the justification of investment activities aimed at development and economic growth and the sustainable development of Eastern Croatia. Valorization of natural capital and natural values is a complex assessment of importance for sustainable development in one place, region or country. It is important for the planning of general social development, environmental protection and economic and non-economic functions of sustainable development as a whole. Valorization of natural capital should not be equated with economic capital, since the anthropogenic value of natural capital, regardless of importance, is not a commodity in economic terms (Ćirković, 2005, 178).

This attitude is confirmed by the fact that the values of natural capital use structures, phenomena and processes that have almost no significance for any other activity. Land, water, air, biodiversity and all other forms of natural capital may only be valorized through valorization of natural capital. **Eastern Croatia** extends between the rivers Drava, Sava and Danube. It is also called Lowland or Pannonian Croatia. For most of its part, it is lowland and suitable for farming, therefore it is also known as the breadbasket of Croatia. The regions of Eastern Croatia are Slavonia, Baranja and the western part of Srijem. The largest city is Osijek, and the largest port is Vukovar. Therefore, the basic element of natural capital is arable land. This basic element should be seen in the wider sense of the word as a natural resource or capital, which includes water, air, arable and non-cultivated agricultural land, forests and other natural resources.

The Republic of Croatia has 0,206 hectares per person, which totals around 700,000 hectares of arable land. However, the number of fields is far smaller and amounts, according to the data of the Agricultural Land Agency, to 261,961.63 hectares.

There is also a global trend of cooperation between the various fields of economy and environmental protection, whereby such communication enables both the protection of public goods and the achievement of favourable economic results at the same time, and the valorization in this paper is supposed to show how the natural capital of Eastern Croatia can fit such trends.

The initial step towards valorization, after selecting the object of valorization, is to select and set the method. In the assessment of natural capital, there is no explicitly defined valorization method, and therefore, quantitative and qualitative methods are used which, through numerical expression, descriptors, and sometimes graphic representation, express the value of the resource that is valorized. Valorization is one of the most important issues of the theory and practice of modern sustainable development, as well as development at the level of a specific place, region and country. It is of great importance for the planning of future development, preservation and protection of the environment, as well as for a whole range of economic and non-economic indicators of the degree of development of the economy as a whole. The procedure of valorization determines the potentials of a particular region. Objects of valorization may be all objects of natural capital, phenomena or spaces created by natural processes or by human activity, possessing certain characteristics essential for sustainable development. Valorization involves economic activation that is maximally subordinate to the preservation of the integrity of natural capital values. This is confirmed by the fact that there are interesting objects, phenomena and processes (but also their mutual combinations) that do not have any significance for a whole range of other activities, but may be assigned value by virtue of valorization. Valorization aims to emphasize "usability" and the marketvalue of potentials (Čomić and Pjevač, 1997, 141).

Valorization should determine the state of the value of natural capital, on the basis of which objective possibilities for further development and sustainable development are determined, and then possible protection of resources, necessary investments and economic opportunities should be assessed (Besermenji, Marković and Jovičić, 2010, 196). One of the scientifically recognized and recognizable models of valorization for natural capital assets is the Hilary du Cros (Du Cros, 2001; Du Cros, 2000, 155) model. She introduced cultural-economic sub-indicators and the degree of their grading into the process of valorization, especially for the economic sector, and especially for the sector of natural asset management. Sub-indicators are rated from 0 to 5; however, some indicators have a smaller span of points. In the economic sector, the market attractiveness of natural assets and factors of importance for the design of the total economic product are valorized. Conclusion on the sub-indicators of the market attractiveness of natural assetsisas follows (Du Cros, 2001, 248; Du Cros, 2000, 155):

1. Poor attractiveness 0-20,
2. Moderate attractiveness 21-40,
3. High attractiveness 41-60.

In the previous practice, several researches in the capabilities of the natural capital of Eastern Croatia have been carried out using this method and we believe that the results are not reliable. We see the reason in the subjective assessment of sub-indicators of market attractiveness of natural assets.

In the existing economic theory, one of the most acceptable concepts is the concept of *cost-benefit analysis* (CBA), i.e. the concept of analysis of costs and benefits. It has become the subject of economic assessment of the justification of exploitation of natural resources in the last few decades, when it became clear to the economic policy makers that the process of resource exploitation is rather complex and time-consuming, and that resources were becoming increasingly more limited. CBA was first used in the public sector to describe the justification of implementation of a particular project (Common, 2008, 121). Later, as it became an effective mechanism for assessment and evaluation ofdecades-long projects, it became an irreplaceable mechanism for assessing the efficiency of the use of natural resources, especially non-renewable ones, and those whose exploitation life is measured in decades and centuries. E.g. in the Republic of Serbia, the CBA procedure was not implemented in the process of decision-making on exploitation of natural resources, which led to numerous important and correct decisions. The CBA procedure itself is carried out in several stages. Analyzing the work of authors who studied the theoretical framework of CBA (Field, 2007, 63), the most comprehensive structure was given by Hanley. According to his research, the implementation of CBA takes place in 8 stages (Hanley, 2010, 264):

1. Defining the process of natural resource exploitation, which includes: proposed relocation of natural resources (the purpose of their use) and satisfying the local population that will be affected by the consumption of these resources,
2. Identifying the external impacts of the resource exploitation process that will occur as a result of the resource exploitation and which may affect other resources of that area,
3. The ability to measure external influences and determine their relevance. The aim is to quantify all external effects,
4. Physical quantification of the relevant impacts that will be generated by the exploitation of a natural resource,
5. Monetary amount of relevant effects, which should include:

- Predicting the flow of cash in the future;
- Correcting market prices, if necessary, and
- Calculating prices for such effects where no market prices exist;

6. Discounting the flow of cash,
7. Comparison of costs and benefits, and
8. Deciding on the exploitation of resources.

Bearing in mind that the process of exploitation of natural resources implies the achievement of positive and negative effects over a longer period of time, it is necessary to reduce the nominal cash effects in different periods of time for a certain period in order to achieve a truly comparable effect. In practice, the most commonly used method is discounting i.e. allocation of the present monetary values to the costs and benefits that will foreseeably appear with the realization of the proposed project i.e.with the exploitation of resources (Hussen, 2004, 147). Comparing the present value of the total expected benefits (PV (B)) and the present value of the total expected costs (PV (C)) generated by the exploitation of the resource potential, the net present value of future exploitation of the resource potential (NPV) is obtained (Harris, 2006, 117):

$$\mathbf{NPV=PV(B)-PV(C)}$$

$$\mathbf{NPV}=\sum_{i=1}^{n}\frac{B_i}{(1+r)^i}-\sum_{i=1}^{n}\frac{C_i}{(1+r)^i}$$

$$\mathbf{NPV}=\sum_{i=1}^{n}\frac{B_i-C_i}{(1+r)^i}$$

If NPV> 0, i.e. if the present value of the total expected benefits (PV (B)) is greater than the present value of the total expected costs (PV (C)), the logical conclusion is that the resource considered should be exploited (Milenković & Bošković, 2011, 86). The essence of the discounting process is the choice of the discount rate (r), which should equalize the value of the resource potential in time. The discount rate aims to reduce all future costs and benefits from the exploitation of the resource potential to the present value. The values thus obtained can be comparable and the decision that would be made by comparing the discounted value of costs and benefits would be socially acceptable. What will be the net present value of the costs and the benefits of future exploitation of the resource potential depends on the highest of the estimated discount rate. From the analysis of the relevant literature that investigated the impact of the discount rate on the determination of the total benefits and costs of exploitation of natural resources, (Hanley, 2010, 47; Field, 2007, 147; Harris, 2006, 89; Milenković & Bošković, 2011, 135) it may be clearly concluded that the high discount rate means that the effects in the future period will be discounted at low value, but in case of a low discount rate, future costs and future benefits will be discounted at a relatively high value.

Since the benefits of exploitation of natural resources occur mainly in the future period, and the bulk of the costs arise in the early years, it is evident that the amount of value assigned to the discount rate depends on whether or not, and how, the natural resource will be exploited. This particularly affects those natural resources that are responsible for the development of sustainable tourism, which should be assigned low discount rates, in order to favour future, long-term positive effects. Such a policy of assigning a low-cost discount rate is often contrary to the economic interests in achieving short-term profits, especially in underdeveloped countries and developing countries, such as Serbia is today. Therefore, it is necessary to emphasize all the advantages of long-term sustainability and conservation of natural tourist resources. Such a policy of assigning low discount rates for the exploitation of Serbia's natural resources would significantly increase the competitiveness of sustainable tourism in relation to other branches of the economy. If such a discount rate were allocated in the process of decision-making on exploitation, for example, water resources, tourist use would be more acceptable in relation to such uses that would require direct consumption (e.g. agriculture).

In extreme cases, even the zero discount rate is applied. There is practically no discounting then, because it fully equates the value of the effects in any year and its current discounted value. This situation occurs when some resources are planned to be saved for the future and when their positive effects are more pronounced if the resources are not physically consumed (for example, plant and animal species in national parks). Such a discount policy would lead to the physical preservation of Serbia's best-quality animal resources (for example, the brown bear) which, paired up with the decision to ban hunting and landscaping, would have significantly better effects than if it was used for the purpose of developing hunting tourism.

Observing the previously mentioned stages of CBA, it may clearly be concluded that the presented concept is more acceptable than the traditional market concept of the assessment of natural resources, because it includes everything that is fundamentally related to the exploitation of natural resources. External effects are becoming more and more pronounced, in the sense that their inclusion is important for assessing the efficiency of using the resource potential. Also, achieving effects over a longer period of time is a logical consequence of the period of exploitation of a resource, so the process of discounting the effects is requiredin order to obtain comparability of all positive and negative effects. The main disadvantage is subjectivity in terms of determination of the amount of the discount rate, and hence the final decision on how the resources are to be exploited.

Finally, it should be concluded that it is necessary to carefully plan sustainable returns for the purpose of preserving natural capital and, on the other hand, to achieve the goal of economic policy in the form of growth of economic indicators. In no way should the exploitation of natural capital exceed the limits of an environmentally sustainable level. Therefore, natural capital must be valorized, the guidelines for economic growth have to be determined and the path to sustainable development of the economy as well asthe society as a whole has to be established.

REFERENCES

Besermenji S., Marković S., Jovičić D.(2010): ***Turistička valorizacija sakralnih objekata građenih u stilu Raške škole,*** Zbornik radova - Geografski fakultet Univerziteta u Beogradu

Du Cros H.(2002): ***Planning for sustainable cultural heritage tourism in Hong Kong***, Final report to the Lord Wilson Heritage Trust Council SAR

Du Cros H.(2001): ***A new model to assist in planning for sustainable cultural heritage,*** International Journal of Tourism Research

Đukanović M.(2006): ***Životna sredina i održivi razvoj,*** Elit, Beograd

Common, M.(2008): ***Environmental & Resource Economics,*** Harlow, Longman

Ćirković, S.(2005): ***Turistička valorizacija arheoloških lokaliteta u Srbiji,*** Srpsko geografsko društvo, Beograd

Čomić, Đ., Pjevač, N.(1997): ***Turistička geografija,*** Savezni centar za unapređenje hotelijerstva i ugostiteljstva, Beograd

Field, B.(2007): ***Environmental Economics,*** Mc Graw-Hill Companies, New York

Hanley, N.(2010): ***Cost-benefit analysis,*** In: Folmer, H. &Gabel, L. (eds.). Principles of environmental and resource economics. Chletenham: Edward Edgal

Hussen, A.(2004): ***Principles of Environmental Economics,***Routledge,London

Harris, J.(2006): ***Environmental and Natural Resource Economics***, Houghton,New York

Milenković, S. & Bošković, N.(2011): ***Resursi u ekonomskoj sadašnjosti i budućnosti,*** Ekonomski fakultet, Kragujevac

M.A. Marina Kovačević, senior lecturer
The University of Applied Sciences Baltazar Zaprešić
Vladimira Novaka 23, 10290 Zaprešić
Phone: 00385 1 4002 782, 663 6002
E-mail: kovacevic.marina4@gmail.com; marina.kovacevic@bak.hr

Doris Mlinarić, struc.spec.oec.
Nikole Tesle 21, 10410 Velika Gorica
Phone: 00385 98 9036 184
E-mail:doris.mlinaric@gmail.com

Klaudia Coner, bacc.oec.
Student at the University of Applied Sciences Baltazar Zaprešić
Maršala Tita 10, 10299 Marija Gorica
Phone: 00385 99 6899 259
E-mail: klaudia.coner@gmail.com

EFFICIENCY ANALYSIS OF ACQUISITIONS AND FINANCIAL PERFORMANCE OF A SECURITY SERVICES COMPANY

ANALIZA UČINKOVITOSTI AKVIZICIJE I FINANCIJSKIH PERFORMANSI PODUZEĆA U ZAŠTITARSKOJ DJELATNOSTI

ABSTRACT

Expanding a company by means of external growth and different business relations represents a necessity of modern business and market survival. There are many forms of business combinations and relations whose implementation requires further analysis and various approaches in scientific and professional papers. Different forms of acquisitions, as one of particularly important business combinations, contribute to better business and financial performance of companies, and take place in all areas of activities, as well as security services. Having in mind the aforementioned reasons, the aim of this paper is to analyse, not only acquisitions, but also financial performance of a newly founded security services company, based on an example of the acquisition of several Croatian security services companies by Securitas AB Sweden, the biggest security services group in the world. After the acquisition, the companies have been merged into a new firm called Securitas Hrvatska d.o.o. Among the analysed target companies that were the subject of this acquisition, was also Security Buzov Ltd. from Eastern Croatia, a business leader in security services in the region, as well as in Croatia.Various quantitative and qualitative methods were used. Both scientific and technical literature and financial reports were analysed. Data synthesis has emphasized the efficiency of the acquisition and analysed financial performance of the new company. By comparing statistical and financial reports, conclusions on the effects of acquisition and the performance of the new company were reached. The results show that the new company has improved its business performance, especially when it comes to profitability, liquidity, indebtedness and business efficiency. Since the main goal of the company is to retain a strong position in security services industry and to continue to provide services to its global clients, it is expected that the company will be resilient and financially successful.

Key words*: Acquisition, Business combinations, Security services, Financial and business performance, Eastern Croatia.*

SAŽETAK

Ekspanzija poduzeća kroz eksterni rast i uspostavu specifičnih odnosa između poduzeća, danas predstavlja nužnost u poslovanju i opstanku na suvremenom tržištu. Postoje brojni oblici poslovnih kombinacija kao i odnosi između poduzeća čija provedba zahtijeva dodatne analize i pristupe u stručnim i znanstvenim radovima.
Posebno relevantni oblici kombiniranja poduzeća su različiti sofisticirani vidovi akviziterskih odnosa koji doprinose poboljšanju ukupnih financijskih i poslovnih performansi poduzeća, a prisutni su u svim djelatnostima, pa tako i u zaštitarskoj djelatnosti. Iz tog razloga, cilj rada je analizirati uspješnost akviziterskih odnosa i financijsko poslovanje nove tvrtke u segmentu zaštitarske djelatnosti, i to na primjeru preuzimanja više hrvatskih zaštitarskih tvrtki od strane Securitas AB Švedska, najvećeg koncerna u području zaštitarstva u svijetu. Nakon preuzimanja tvrtki, one se spajaju u novu tvrtku- Securitas Hrvatska d.o.o. Među analiziranim ciljnim tvrtkama koje su preuzete ovom akvizicijom, bila je i tvrtka Sigurnost Buzov d.o.o. iz područja istočne Hrvatske kao regionalni lider u poslovnom zaštitarskom svijetu, ali i u Hrvatskoj. U svrhu izrade rada koristilo se više metoda kvantitativnog i kvalitativnog istraživanja. Analizirala se dostupna znanstvena i stručna literatura te financijska izvješća na temelju kojih se sintezom relevantnih podataka naglašava učinkovitost akvizicijete i ispituju financijske performanse novog poduzeća.
Komparacijom statističkih i financijskih izvješća poduzeća donose se zaključci o konkretnim učincima akvizicije i poslovanju novog poduzeća. Rezultati istraživanja pokazuju poboljšanje poslovanja nove tvrtke posebno u segmentu profitabilnosti, likvidnosti, zaduženosti i ekonomičnosti ukupnog poslovanja. Budući tvrtka ima za cilj održati snažnu poziciju u zaštitarskoj industriji i osigurati nesmetano pružanje usluga globalnim klijentima, očekuje se dugoročna i financijski uspješna tvrtka.

***Ključne riječi**: Akvizicija, Poslovne kombinacije, Zaštitarska djelatnost, Financijske i poslovne performanse, Istočna Hrvatska.*

1. Introduction

Contemporary business conditions and market demands impose the need for different types of business arrangements that may lead to numerous economic, financial and market effects. Within this framework, sophisticated forms of acquisition relations, too, contribute with effects that are reflected through the economies of scale, i.e. lower average fixed business costs, a better position in the market and increase in total cash flows. The stated effects lead to creating valuable synergy that can be seen in the increase in the value of the company resulting from the acquisition. Furthermore, a synergistic effect is at the same time the primary motivation for a company to enter a certain business relationship, in this case a certain form of acquisition relations. Thus, acquisition is justified if it results in a positive financial performance.

The aim of the paper is to analyse, using the example of several different acquisitions in the security services industry, i.e. within Securitas Hrvatska d.o.o., the financial operation in the period between 2012 and 2016, thus implying the success of the implemented acquisitions in a particular segment. For this purpose available scientific and professional literature has been analysed as well as financial annual and audit reports and other relevant sources. Conclusions on the financial performance of the studied company and the effects of the acquisition have been drawn based on quantitative analysis and comparison of data in the said period.

2. Acquisitons and their effect on financial performance of companies

Acquisition can be defined as a takeover of a company or a part of a company by acquiring a control package of its shares or by acquiring its assets. The term also refers to combining two or more business entities into one business entity. An acquisition can occur when two or more companies join together because of some common interests or when one company takes over another or more companies. The acquiring company can purchase the majority ownership interests or the assets of the target company. When it comes to mergers, we can differentiate fusion and consolidation. Fusion refers to combining two business entities into one business entity by merging their ownership interests completely, while consolidation refers to merging the companies into one completely new company (Gulin and Orsag, 1996, 25-28).

Acquisition can be achieved by purchasing assets of the target company or by purchasing the majority part of its shares, i.e. by purchasing the control package of the target company. Therefore, we can differentiate between asset and share acquisition. An acquisition can be carried out by purchasing a company (its assets or a control package of its shares) for cash or by means of an exchange for the acquiring company's shares (Gulin and Orsag, 1996, 25-30).

Today there are many different forms of business combinations and acquisition relations present in all segments of performing business in the domestic and international market. Without mutual cooperation and various arrangements with other companies it would be impossible to be competitive in today's market. This way, we can achieve some benefits, such as faster growth, unit costs reduction, economy of scale, reduced business risk and financing costs, cash inflows, technological excellence, better research and development infrastructure, human resources, as well as other benefits important for the overall performance of the company. The driving force and prerequisite for an acquisition is the synergistic effect, i.e. the value of two companies combined should be greater than the value of each company before the acquisition. The synergistic effect should be evident in increased cash flow, which is achieved by means of increasing revenue, reducing costs and taxes, as well as reducing capital requirements and lowering capital costs (Gulin and Orsag, 1996, 84-86).

3. Acquisitions in the Securitas Hrvatska d.o.o and financial performance analysis

In the framework of conducting financial analysis and analysing the effects of acquisitions, Securitas Hrvatska d.o.o, a security services company, was chosen. Securitas Hrvatska d.o.o. was the first foreign security services company in Croatia and today is the biggest integrator of security solutions in the country. The company is relatively young, but extremely significant in the area of security services in Croatia and it has continually been increasing its external growth through various forms of acquisitions. In that context, business financial indicators for the period from 2012 to 2016 have been analysed, implying the success of the implemented acquisitions.

3.1. Basic information on Securitas AB and Securitas Hrvatska d.o.o.

The Securitas Group or Securitas AB (hereinafter referred to as Securitas) is a Swedish company providing protective services since 1934. In the beginning, they had only three employees and offered fire and safety services, as well as services of guarding entrances and gates. The company has grown and expended all over the world, and today it employs 335,000 people in 53 countries. Securitas operates in North America, Europe, Latin America, Africa, the Middle East and Asia where they have several subsidiaries. They are a market leader in the area of security services and offer specific security solutions in accordance with market requirements. In 2016 their total sales amounted to MSEK 88,162 and the Securitas share has been listed on the Stockholm Stock Exchange, now Nasdaq Stockholm, since 1991 (Securitas, 2018a).

In July 2018 Securitas acquired Zvonimir Security, one of the leading Croatian security services companies with more than 1,000 employees. The acquisition of Zvonimir Security was the first foreign acquisition in the Croatian security services market. To continue, in January 2012 Securitas acquired Protect, a regional leader of Istria and Kvarner from Rijeka. In the August of the same year, they also acquired Security Buzov, a regional security services leader in Slavonija. In October 2013 the three companies were merged into one company under a joint name, Securitas Hrvatska d.o.o. with headquarters in Zagreb. In December 2013 Securitas continued its expansion in Croatia by acquiring 65% of Tehnomobil Ltd, also one of the leading companies in providing security services in Croatia. The firm changed its name to Tehnomobil Securitas Ltd. However, in January 2017 Securitas took over the remaining shares of the company and Tehnomobil Securitas merged with Securitas Hrvatska to form a new legal entity named Securitas Hrvatska d.o.o. That way Securitas Hrvatska became the biggest integrator of security solutions in Croatia (Securitas, 2018b).

Today Securitas Hrvatska specializes in providing a range of manned guarding and technical services, fire and safety services, track and trace services and security alarm services. Securitas Hrvatska has more than 2,300 employees and 12 offices in Croatia. Their aim is to maintain a strong leading position in the security services industry and to continue to provide services to its global clients (Securitas, 2018c).

3.2. Analysis of financial performance of Securitas Hrvatska d.o.o.

On the basis of available data obtained from the Financial Agency (hereinafter: FINA) i.e. Audit Report 2012 and Audit Report 2014 the groups of indicators were calculated and the data for 2013 were provided, and within Annual Report 2016 the data for the year 2015 were provided.

The first group of indicators were liquidity and financial stability indicators (Table 1). First analyzed coefficient in this group of indicators is the current ratio that represents ratio of short-term assets and short term liabilities and it measures the company's ability to meet its short term liabilities and to maintain the current financial liquidity. According to Table 1 in the observation period from 2012 to 2016 this ratio increased insignificantly from 1.06 to 1.77 to see a fall to 1.23 in 2016. It would be considered favorable if the ratio was 2 or more than 2 (Žager atal, 2008, 249) since a part of short term assets has to be financed from long term sources (net working capital), and values lower than 1.5 may indicate that the company has run out of funds and is not able to pay off its obligations.The next analyzed indicator is the quick ratio that represents ratio of short term assets(inventories excluded) and short term liabilities which also increased from1.04 to 1.69 in the observation period (2012-2016)whereas in 2016 it dropped to 1.17. As regards this coefficient, it would be considered favorable if it was 1 or more than 1, which means that the company Securitas Hrvatska d.o.o. in the observation period had sufficient quick assets for meeting its short term obligations.

The current liquidity ratio as the ratio between financial assets and short term liabilities in the observed period dropped from 0.23 to 0.12, however, it is still above the recommended value of 0.1. In other words, the observed company possesses sufficient liquid assets to settle its short term liabilities, but the value of the coefficient is dropping. The financial stability ratio that represents the ratio of long term assets and the capital increased by long term receivables in the entire observed period was at a desirable value of lower than 1 (Žager et al, 2008, 257), which means that the company is financially stable and has working capital. Net working capital of Securitas Hrvatska d.o.o. that represents the short term assets minus its short term liabilities, records a sudden increase from slightly over HRK 1 million to over HRK 14 million and continues to grow up to HRK 20 million in 2015, to see a drop slightly below HRK 9 million in the year 2016. The reason for the sudden growth of the company in 2013 is to be found in the mergers performed within Securitas

Hrvatska d.o.o. in the course of which the company's short term asset increased significantly (Table 1).

***Table 1** Liquidity and financial stability of Securitas Hrvatska d.o.o. in the 2012-2016 period*

LIQUIDITY AND FINANCIAL STABILITY INDICATORS	2012	2013	2014	2015	2016
Current liquidity ratio	1.06	1.42	1.54	1.77	1.23
Quick ratio	1.04	1.38	1.47	1.69	1.17
Current liquidity ratio	0.23	0.22	0.17	0.14	0.12
Financial stability ratio	0.88	0.38	0.41	0.42	0.5
Net working capital	1,282,168	14,130,867	15,503,399	20,385,456	8,715,179

Source: Calculation made by the authors according to the data obtained from FINA (2012, 5; 2014, 6-9; 2016, 8-11)

The next group of indicators are indebtedness indicators (Table 2) that indicate the company's overall capital structure and the assets financing modalities i.e. the indicators that suggest the degree of financial leverage utilized by the company as well as the degree to which the company's operating with debt. The first analysed indicator in that group is the debt ratio that represents the ratio of total liabilities to total assets of the company. The debt ratio in the observed period drops and migrates largely over the recommended values of 0.5. Only in 2015 the company indebtedness was slightly lower at 0.44 (44%) since there were no long term liabilities in the aforementioned year. However, today the traditional ratio increasingly migrates in favour of 0.7 debt, and the indebtedness is justified if the financial leverage principle is followed, i.e. that the business profitability was higher than the weighted average market interest rate that might be justified in 2015 or 2016 due to the return on assets (ROA) (Table 4). The observed company reached a considerable level of indebtedness in 2012 amounting to almost 90% of total business financing which suggests that the company was exposed to financial risk as well as to other risks in the course of the acquisition process.

The next indicator, which is, in the total financing of the company structurally related with the previously analysed indicator is the self-financing ratio as ratio of the company equity to total assets indicating how much of the company's assets were financed by the company’s own resources. In the 2012- 2015 period this indicator increased but migrated below recommended values of 0.5+, except for the year 2015. As regards 2012, the indicator evidently showed the company's exposure to business risk. However, after having performed several acquisitions, some, though not ideal, improvement in the total capital structure was visible. The aggregate of indebtedness ratio and the self-financing ratio should be 1 i.e. 100%, but sometimes this is not the case due to the items that cannot be classified either as liabilities or capital.

The financing coefficient as the ratio of total liabilities to equity was as high as 7.1 in 2012 due to a high proportion of debt in the company's equity. Total liabilities were more than HRK 26 million and the equity was slightly over HRK 3.7 million. In the subsequent period due to the changes introduced as a result of the merger of the companies the equity capital increased to more than HRK 18.3 million in 2013, with total liabilities reaching the value of HRK 33.6 million. It should be emphasized that, when compared to 2012, long term liabilities significantly decreased from more than HRK 6.2 million to HRK 73.5 thousand. Also, in the next period equity capital increased considerably, whereas total liabilities dropped. In 2016 equity capital decreased and short term liabilities increased, which was reflected on the financing coefficient. In 2015 and 2016 Securitas Hrvatska d.o.o. had no long term liabilities (FINA, 2016, 10).

Indebtedness factor that represents the ratio of total liabilities to retained earnings plus depreciation indicates how many years are required to settle total liabilities from the retained earnings increased by the depreciation where a control measure for this indicator is 5 years. In other words, if a company can settle all of its liabilities within 5 years, it is solvent and not over-indebted (over geared). In the 2013 – 2016 period the indicator of the examined company ranges within 5 years, while in 2016 it is close to reference value of 4.96. In line with the high indebtedness coefficient in 2012, the indebtedness factor amounts to 8.56, which in turns suggests a high level of risk in business operation.

Coverage ratio level 1 represents the balance sheet golden rule as ratio of equity capital to long term assets and it indicates to what extent long term assets can be financed from the company's own resources. At this point it should be emphasized that the more long term assets are financed from the company's own resources, the company is better off. In the examined period a significant increase in this coefficient is visible especially at the turn of 2012 as the merger led to equity increase.Coverage ratio level II represents the golden banking rule as ratio of equity capital increased by long term liabilities to the company's long term assets and it indicates to what extent equity capital and long term liabilities are capable of financing long term assets. The situation is favourable if long term assets are completely financed from the long term sources of finance, i.e. indicator is 1 or larger than 1 (Žager et al., 2008, 251), which was the case throughout the examined period in compliance with the financial stability ratio (Table 2).

Table 2 *Indebtedness indicators of Securitas Hrvatska d.o.o. 2012-2016*

INDEBTEDNESS INDICATORS	2012	2013	2014	2015	2016
Debt ratio	0.87	0.62	0.54	0.44	0.62
Self-financingratio	0.12	0.34	0.40	0.52	0.34
Financing ratio	7.1	1.83	1.35	0.85	1.83
Indebtedness factor	8.56	4.5	3.6	2.09	4.96
Coverage ratio level I	0.42	2.65	2.47	2.36	1.53
Coverage ratio level II	1.14	2.66	2.47	2.36	1.3

Source: Calculation made by the authors according to FINA (2012, 4-5; 2014, 6-11; 2016, 8-13)

The changes in the Index Indicators of Securitas Hrvatska d.o.o. 2012 -2016 are shown in Table 3. These indicators show the circulation rate of assets in the business process and these are calculated on the basis of the relation between asset turnover and the average asset standing(Žager et al, 2008, 251). The activity index indicators are also known as the asset turnover ratio and it is desirable for them to be as high as possible, i.e. that the time of tying total assets with specific assets is the shortest possible. In the year 2013, when the merger took place, there was a significant drop in the turnover coefficients, whereas in the years to come a gradual increase was recorded in line with revenue growth and the expansion of the business operation. Also, the time required for collecting receivables calculated in days, immensely increased in 2013 in line with the decrease in the receivables turnover ratio. And it indicates the issue of receivables collection in that year, as well as improvement in the collection of receivables and a gradual reduction in the collection time in the subsequent years observed in the study.

***Table 3** Activity Index Indicators of Securitas Hrvatska d.o.o. in the 2012-2016 period*

ACTIVITYINDICATORS	2012	2013	2014	2015	2016
Total asset turnover ratio	2.54	1.74	3.08	3.04	3.14
Short term assets turnover ratio	3.58	2	3.68	3.90	4.05
Receivables turnover ratio	4.81	2.43	4.41	4.61	4.88
Time (days) required for the collection of receivables	76	150.21	83	79.18	75

Source: Calculation made by the authors according to FINA (2012, 4-5; 2014, 6-11; 2016, 8-13)

A relevant group of indicators are the profitability indicators shown in Table 4. A gross and net profit margin is the ratio of gross or net profit increased by the interest to total revenues or only sales revenues. Net profit margin represents the most precise indicator of the final effects of performed business transactions and shows the percentage of freely disposable earnings. According to Table 4, a significant reduction in the net profit margin is evident in the merger year (2013) amounting to 0.06%. In that year the company generated a net profit of HRK 39.643 (FINA, 2014, 11). Total return on assets (ROA) is shown through the ratio of net profit plus interest to total assets, demonstrating the company's capacity to generate profit with the utilization of disposable assets. Also, a considerable drop in ROA to 0.11% is visible in 2013 as well as an increase in 2015 to 16% when the company records a net profit exceeding HRK 9.7 million (FINA, 2016, 13). Return on equity (ROE) is shown as the correlation between net profit and capital reinforcing the previous profitability indicators. In 2012 ROA amounts to 42% due to low capital level prior to the company's merger and a high net profit of more than HRK 1.5 million (FINA, 2012, 4). In 2013 return on equity (ROE) amounts to 0.22% due to low profit and capital increase through the merger. In years to come return on equity increases to 31% in 2015.

***Table 4** The Profitability Indicators of Securitas Hrvatska d.o.o in the 2012-2016 period*

PROFITABILITY INDCATORS	2012	2013	2014	2015	2016
Gross profit margin	0.03	0.003	0.02	0.07	0.04
Net profit margin	0.02	0.0006	0.02	0.05	0.03
Return on assets (ROA)	0.05	0.0011	0.05	0.16	0.09
Return on equity (ROE)	0.42	0.0022	0.13	0.31	0.26

Source: Calculation made by the author according to FINA (2012, 4-5; 2014, 6-11; 2016, 8-13)

The latest analysed indicator for Securitas Hrvatska d.o.o. is cost-effectiveness of total business operation, which represents the ratio between total revenue and expenditure. Cost-effectiveness of total business operation in the entire examined period is higher than 1, which means that the company operated with profit that was slightly higher in 2015, when the profitability indicator was 1.07.

4. Conclusion

This paper emphasizes that the acquisition of a company is justified if it results in synergy created by various economic, market and financial effects and subsequently leads to an increase in cash flow and better financial operation of the company. In this context the financial performances of Securitas Hrvatska d.o.o. were analysed. Available financial reports and analysed financial indicators in the observed 2012-2016 period show that the financial performance of the analysed company was improved.

The liquidity and financial stability indicators generally show significant improvements, except for the fact that current liquidity should be slightly higher, at least above 1.5 which was indeed realized in the year 2015. Prior to the merger, current liquidity was lower compared to the situation following the merger in 2013. The financial stability ratio maintained a favourable level in the entire examined period, while the said financial stability following the merger was improved (ratio dropped). In addition, the value of net working capital through the merger of companies increased. Indebtedness indicators show a significant improvement.In 2012, all the indebtedness indicators show the company was over-geared and exposed to a high level of risk in its business operations. After the merger (2013), it is evident that the company's equity capital increased and the indebtedness rate dropped. Long term liabilities decreased particularly so that the company recorded no long term debts for the years 2015 and 2016. The turnover ratios show a significant fall in the year of the merger to see a gradual increase in years to come as a result of revenues growth. Receivables collection period was no longer than 150 days in the year of the merger to be gradually reduced in the following years. The company's profitability reached the lowest point in the year of merger, when the company generated a low net profit with ROA of only 0.11 1%. Therefore, further financing of the business operation by incurring debt is not justified, which ultimately turned out to be reasonable behaviour with long term indebtedness decreasing. After the merger profitability indicators increased reaching maximum values in the year 2015. Cost-effectiveness of the company's equity capital significantly dropped in the year of merger as a result of capital increase and low net earnings, however, after the merger, ROE recorded growth. Throughout the examined period the company operates with a profit which is indicated by the cost- effectiveness of overall business operation.

Generally speaking, we may conclude that financial performance of Securitas Hrvatska d.o.o. was the poorest in the years 2012 and 2013, while the company recorded a significant improvement after the acquisitions were implemented. Therefore, the efficiency of the implemented acquisitions is reflected on the increase in cash flows of the observed company as well as on its overall enhanced financial performance.

REFERENCES

Gulin, D. and Orsag, S. (1996): ***Poslovne kombinacije***, Croatian Association of Accountants and Financial Experts, Zagreb

Financial Agency (2012): ***Revizorsko izvješće 2012 MB00719480***, http://rgfi.fina.hr/JavnaObjava-web/pSubjektTrazi.do, (last accessed on January 28,2018)

Financial Agency (2014): ***Revizorsko izvješće 2014 MB00719480***, http://rgfi.fina.hr/JavnaObjava-web/pSubjektTrazi.do, (last accessed on January 28, 2018)

Financial Agency (2016): ***Godišnje izvješće 2016 MB00719480***, http://rgfi.fina.hr/JavnaObjava-web/pSubjektTrazi.do, (last accessed on January 29, 2018)

Securitas (2018a): ***The Securitas Group***, https://www.securitas.com.hr/o-nama/securitas-grupa/, (last accessed on February 20, 2018)

Securitas (2018b): ***Povijest Securitasa u Hrvatskoj***, https://www.securitas.com.hr/o-nama/povijest-securitasa/povijest-securitasa-u-hrvatskoj/, (last accessed on February 20, 2018)

Securitas (2018c): ***Securitas Hrvatska***,https://www.securitas.com.hr/o-nama/securitas-hrvatska/, (last accessed on February 21, 2018)

Žager, K.; Mamić Sačer, I.; Sever, S.; Žager, L. (2008): ***Analiza financijskih izvještaja***, Masmedialtd., Zagreb

Jakša Krišto, PhD Assistant Professor
University of Zagreb Faculty of Economics and Business
Trg J.F. Kennedyja 6, Zagreb
Phone: +385 1 238 3170 Fax: +385 1 233 5633
E-mail address: jkristo@efzg.hr

Iva Jaki, mag.oec.
Križevci-Produktd.o.o.
FerdeKerna 8, 48260 Križevci
Phone: +385 48 714 594 Fax: +385 48 714 594
E-mail address: iva.jaki@gmail.com

MULTIVARIATE STATISTICAL ANALYSIS OF HOUSEHOLD DEBT IN BANKS OVER THE COUNTIES IN CROATIA

MULTIVARIJATNA STATISTIČKA ANALIZA ZADUŽENOSTI KUĆANSTAVA U BANKAMA PO ŽUPANIJAMA U HRVATSKOJ

ABSTRACT

Banking loans represent dominant form of debt financing for household sector.Research show that banks are key financial institutions incountry's narrower territorial units, outside the financial centres and that characteristic of local economy determine bank's business policy. This paper examinescharacteristics of households' debt in banks within the counties in Croatia. In order to define relatively homogenous groups of counties in Croatia according to households' debtcharacteristics, the method used in the paper is multivariate statistical analysis, more precisely factor and cluster analysis.The analysis considers different types of loans and currency structure of bank loan portfolio for household sector in Croatian counties, as well as level of indebtedness of households regarding economic and demographic indicators of county development. Economic interpretation of results collected indicates interrelation of county economic development and demographic characteristics to banking households' sectorloan portfolio. Characteristics of banking loan portfolio for households based on different types of loans and currency criteria are emphasised, as well. Conclusions in a paper discusses deviations according to counties as well as analytically determined clusters of relatively homogenous counties.Results in our analysis point to importance of consumer protection, financial literacy together with theprevention ofhouseholds'indebtedness. Analysis in this article highlights banks' credit policy towards household sector in Croatian counties and importance of forming bank business policy for this sector, considering specifics of each county or cluster of counties with homogenous characteristics.

Key words: *household debt, banks' credit policy, multivariate statistical analysis, Croatian Counties, Eastern Croatia.*

SAŽETAK

Bankovno zaduživanje dominantan je izvor dužničkog financiranja za sektor kućanstava. Na užim teritorijalnim jedincima neke države, van financijskih centara, istraživanja pokazuju da su banke ključne institucije financijskog posredovanja, a bankovna poslovna politika uvjetovana je karakteristikama lokalnog gospodarstva. U radu se preispituju karakteristike zaduženosti kućanstava u bankama po županijama u Republici Hrvatskoj. Korištenu metodologiju u radu predstavlja multivarijatna statistička analiza, točnije faktorska i klaster analiza, kako bi se definirale *relativno homogene skupine županija prema obilježjima zaduženosti kućanstava u bankama. U analizi se uzima u obzir namjenska i valutna struktura kreditnog portfelja banaka za sektor kućanstava po hrvatskim županijama kao i stupanj zaduženosti kućanstava u bankama u odnosu na ekonomske i demografske pokazatelje razvoja županija. Ekonomsko tumačenje ostvarenih rezultata ukazuje na povezanost razvoja pojedine županije, prostornih i demografskih karakteristika te obilježja zaduženosti sektora kućanstava u bankama.U radu se ističu karakteristike poslovne politike banaka po županijama u dijelu kreditiranja sektora kućanstava po vrsti kredita te raspravljaju odstupanja i analizom utvrđeni klasteri relativno homogenih županija. Rezultati u radu ukazuju i na važnost zaštite potrošača, financijske pismenosti kao i važnost sprječavanja prezaduženosti kućanstava. Provedenom analizom u ovom članku dodatno se ukazuje na kreditnu politiku banaka prema sektoru kućanstava po hrvatskimžupanijama te važnost oblikovanja kreditne i poslovne politike banaka prema ovom sektoru uzimajući u obzir specifičnosti pojedine županije ili klastera županija homogenih obilježja.*

Ključne riječi:*zaduženost kućanstava, kreditna politika banaka, multivarijatna statistička analiza, hrvatske županije, Istočna Hrvatska.*

1. Introductory notes

In a bank-based and emerging markets financial system bank play special role in household finance. Banks represent almost exclusive providers of financing to households, especially seen in narrow territorial units. In addition, excessive debt financing of household sector is seen in a development phase of emerging market sectors, especially in case of CEE countries. This open a number of questions from macroeconomic perspective, impact of credit to economic growth, development of housing market, creation of bubbles and financial crisis to consumer protection and issue of households financial literacy. The aim of this paper is to examine characteristics of households' debt in banks within the counties in Croatia. Papers uses multivariate statistical analysis in order to define relatively homogenous groups of counties in Croatia according to households' debt characteristics. Hierarchical and non-hierarchical k-means cluster analysiswas used on a set of indicators pointing to economic characteristic of a county and structure of bank loan portfolio for household sector in Croatian counties. The paper is organised as follows. In introductory notes, aim and structure of a paper is emphasised, as well as, literature review and a key characteristics of territorial organisation of Croatia and key points of Croatian banking sector and structure of a loan portfolio. Next, chapter describes data and research methodology followed by presentation and explanation of obtained results in a separate chapter. At the end of a paper, discussion and conclusions of a paperare presented.

Croatia is organised in 20 Counties and the City of Zagreb as a separate territorial unit[1]. According to regulatory framework[2], counties in Croatia are divided according to index of development in four groups. This categorisation allows them to have equal approach to regional development policy. According to this methodology, five counties (Grad Zagreb, Istarska, Dubrovačko-neretvanska, Zagrebačka and Primorsko-goranska) are in the group of most developed counties, four in second group (Zadarska, Splitsko-dalmatinska, Varaždinska, Međimurska) in third six (Krapinsko-zagorska, Koprivničko-križevačka, Šibensko-kninska, Osječko-baranjska, Karlovačka and Požeško-slavonska) and in least developed group six counties (Brodsko-posavska, Bjelovarsko-bilogorska, Ličko-senjska, Vukovarsko-srijemska, Sisačko-moslavačkaand Virovitičko-podravska) (MRRFEU, 2018). On the other hand, Croatian financial sector is an example of bank-based financial sector. Banking sector in Croatia is characterised by a dominant role of majority foreign-owned banks in total assets

[1]According to: Zakon o područjima županija, gradova i općina u Republici Hrvatskoj (NN 86/06, 125/06, 16/07, 95/08, 46/10, 145/10, 37/13, 44/13, 45/13 and 110/15) and Zakon o Gradu Zagrebu (NN 62/01, 125/08, 36/09 and119/14).
[2]Zakon o regionalnom razvoju (NN 153/09 and 123/17) and Uredbe o indeksu razvijenosti (NN 131/17)

of banking sector with the share of 88.7% at the end of 2016. Bank business model is quite conservative with the share of loans in total assets of 60.7%, deposits in sources of funds of 76.0% and very high level of capital adequacy with the total capital ratio stood at 22.9%. Return on average assets was 1.6% and return on average equity 9.6% in 2016. Loans to households had share of 43.4% in total bank loans, with the dominant importance of housing loans (18.5% in total loans) (CNB, 2017, 4-29).

This research is an advance of ongoing research on financial intermediation of financial institutions over the counties in Croatia (for previous research see: Krišto and Mandac, 2015, Krišto, 2014, Krišto and Tuškan, 2016). Research results showed that differences between developed and underdeveloped counties in Croatia primarily exist in the characteristics of the financial development level and infrastructure and deposit policies. The City of Zagreb stands out as an outlier and it is the most developed narrower territorial unit according to all indicators. The results further show that Croatian banks do not avoid underdeveloped counties, but rather invest in them and feed additional funds to them in excess of these counties' collected deposit bases, notwithstanding lower levels of financial intermediation development, suggested by other indicators (Krišto and Mandac, 2015, 73-74). Banking credit policy is rather uniform around the counties and the differences can be explain by characteristics of economic development of county, demographic and rural characteristics. Less developed counties are characterised with a larger share of overdrafts and loans dominated in Croatian kuna (Krišto and Tuškan, 2016, 329-330).

Research literature in this filed has be based on different directions. Dow, S.C. and Rodriguez-Fuentes, C.J. (1997) analysed existing literature in regional finance pointing to conducted research in case regional impact of monetary policy, regional monetary multipliers, interregional financial flow of funds, interest rate differentials in regional financial markets and regional credit availability (Dow and Rodriguez-Fuentes, 1997, 904). Literature also dealt with regional financial development, bank competition and firm growth (Fernández de Guevara and Maudos, 2009, 211). It is often emphasised what are the advantages of regional approach to financial intermediation and analysis of reginal banking policy. Regional data are more homogeneous, the regulatory and legal frameworks are the same and the financial systems are clearly defined (Valverde et al., 2007).

2. Data and research methodology

Based on banks' credit portfolio data for the household sector per county and county economic development indicators, a multivariate statistical analysis, hierarchical and non-hierarchical k-means cluster analysiswas conducted. The goal of the analysis is to identify homogeneous group of counties based on household banking debt. The data gathering of indicators on banking crediting of household sectors entailed obtaining the data from the Croatian National Bank through written request. The data regarding economic characteristics for counties were obtained from the Croatian Bureau of Statistics (from its publications Statistical Reports and the Statistical Yearbook) and from the Croatian Bureau of Employment and their Yearbooks.

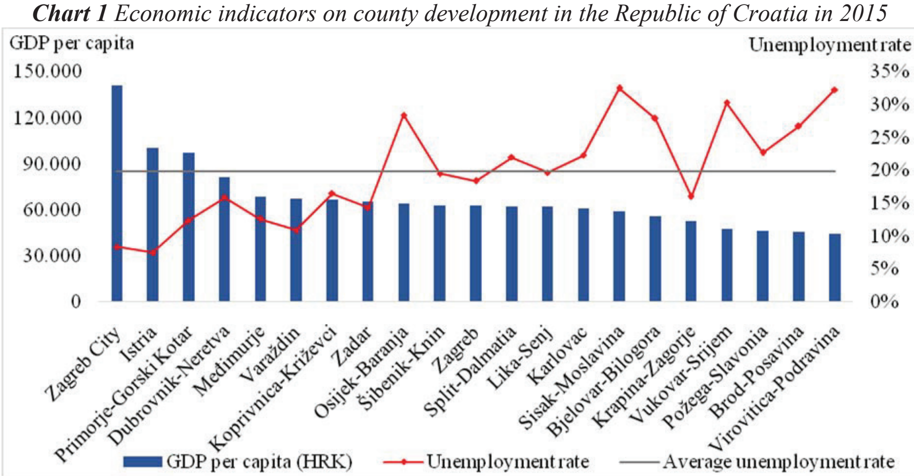
The indicators used in the analysis encapsulate purpose (for housing, consumer, loans for entrepreneurship, non-purpose consumer loans, overdraft and other types of loans) and currency (loans in Croatian kunas, euros and Swiss francs) structure of household loans and economic indicators of county development (county GDP, GDP per capita, population, unemployment rate and net salary).

The methodological approach in this paper consists of:

1. gathering, selecting and grouping of data and forming indicators for counties
2. implementing the descriptive statistical analysis on formed indicators
3. standardizing the data for cluster analysis using the standard „z“ value
4. conductof the hierarchical and non-hierarchical cluster analysis and result validation
6. economic interpretation of results

The data were analysed through descriptive statistic using the Microsoft Office Excel software and multivariate analysis was conducted using SPSS program tool. The results of descriptive statistical analysis show significant differences in chosen indicators in counties. A great difference is shown in the indicator for population number, where the coefficient of variation reaches almost 84%. A significant dispersion of data is found in the the unemployment rate indicator, where the minimal value is 7.5%, whereas the maximum reaches 32.5%. The average GDP per capita is not representative and the low variation on data on net wages confirms the representation of this indicator. Within the group of indicators that refer to the characteristics of crediting policy towards household sector, a spatial disparity among counties is discovered, which is also underlined by the household loans per inhabitant indicator. On the other hand, observing the indicators of shares of loans in euros in overall loans of households,it can be stated that there is even distribution of loans in euros throughout the counties. Observing the loan structure in the households, a significant data dispersion around the median value is discovered, which affirms the regional differences of household debts to banks.

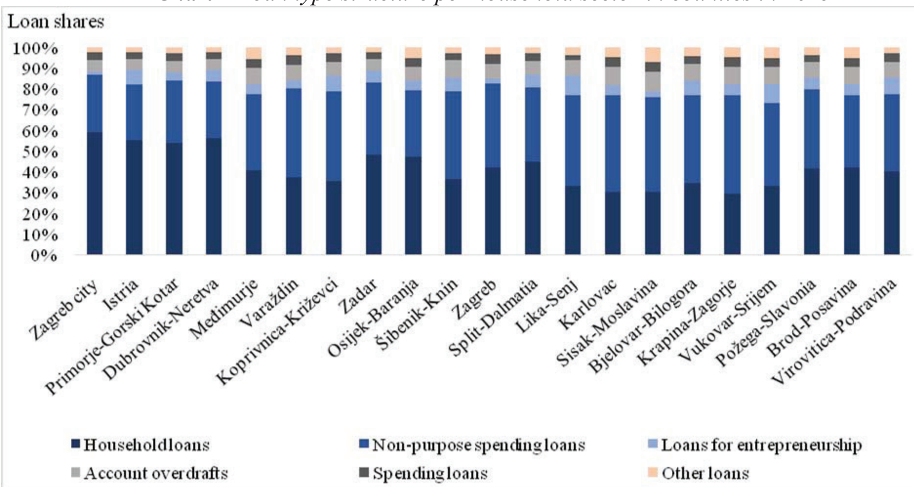
Chart 1 *Economic indicators on county development in the Republic of Croatia in 2015*



Source: Authors calculations

By observing the selected indicators of county economic development, a disproportional relation between GDP per capita and unemployment rate in counties is discovered. All the counties in the east of Croatia have higher unemployment rates in relation to the nationwide average. Chart X points out the standing out of Zagreb in relation to the other counties.

Chart 2 *Loan type structure per household sector in counties in 2015*



Source: Authors calculations

Relatively high shares of housing and non-purpose loans characterize the types of loans in households, but the differences in their relations by counties are indicative of heterogeneous structure. Lower levels of housing loans are found in less developed counties. The account overdraft in eastern Croatian counties is either above or at the national average.

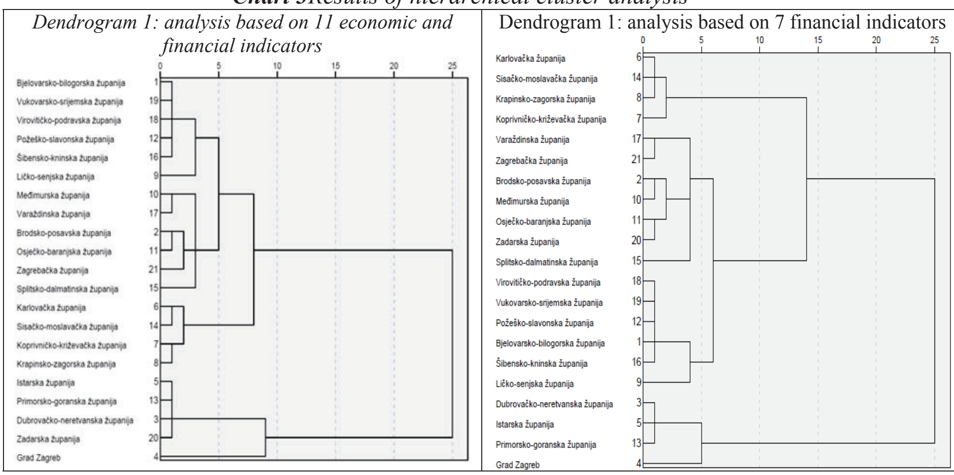
The main research methodology in this paper is cluster analysis, whichis usually used to identify groups of similar units observed by chosen variables. As entry variables in cluster analysis factors were utilized, in other words, the results of factor analysis. In order to define clusters based on variables that make a difference among units, similar variables need to be eliminated and multicollinearity of variables must be probed, as with the rise of collinearity it is difficult to interpret the data. Furthermore, in utilizing cluster analysis, standardization of variables must be taken into account, to eliminate the influence of various measuring units of variables (Bahovec at al., 2011: 93). For this research, the standardization of variables was conducted using the standardized “z” value. Two basic approach in conducting cluster analysis are hierarchical and non-hierarchical method. A clear hierarchy characterizes hierarchical cluster analysis, whereas the non-hierarchical analysis requires a predefined number of clusters. In this research, a hierarchical cluster analysis uses the agglomerative method. Also, Ward’s variance method was used, with clusters defined by minimising the variance within a cluster. This method is based on the application of squared Euclidean distance. The results of the hierarchical cluster analysis are shown in a dendrogram. The final number of clusters is left to authors’ judgement based on theoretical considerations and specifies of counties taking an insight in obtained values of indicators.

Rašić Bakarić, I. (2006) applied cluster analysis to the area of three counties and singled out municipalities with similar characteristics, which, as such, are more adequate instrument and measure in regional policy. Kurnoga Živadinović, N. (2007) classified Croatian counties based on 10 selected social and economic indicators into larger, homogenous spatial units by using multivariate analysis: cluster analysis, factor analysis and discrimination analysis. Krišto and Mandac (2015) also used cluster analysis to investigate characteristics of financial intermediation of banks in counties of Croatia and the results showed heterogeneity of counties in various indicators.

3. Results

The hierarchical cluster analysis based on Ward's method with squared Euclidean distances was conducted on two set of indicators on the 21 Croatian county. In first case, analysis included 11 economic and financial indicators (GDP per capita, net salary, population, unemployment rate, share of loans to households in total banking loans, household loans per capita, EUR loans in overall household loans, CHF loans in overall household loans, housing loan share in overall household loans, share of consumer loans in overall household loans, share of non-purpose consumer loans in overall household loans). In the second case, analysis uses only seven financial indicators that explain structure of households loans.

Chart 3*Results of hierarchical cluster analysis*



Source: Authors calculations

Based on theoretical knowledge and obtained distances in presented dendrograms, solution with five clusters was accepted. That number of clusters was used in conducting non-hierarchical k-means cluster analysis on the same set of indicators and the same approach using 11 economic and financial indicators in first analysis and 7 financial indicators in second analysis.

Table 1 *Results of non-hierarchical k-means cluster analysis based on 11 economic and financial indicators*

Cluster 1	*Cluster 2*	*Cluster 3*	*Cluster 4*	*Cluster 5*
Osječko-baranjska	Bjelovarsko-bilogorska	Karlovačka	Grad Zagreb	Dubrovačko-neretvanska
Splitsko-dalmatinska	Brodsko-posavska	Koprivničko-križevačka		Istarska
	Ličko-senjska	Krapinsko-zagorska		Primorsko-goranska
	Požeško-slavonska	Međimurska		Zadarska
	Šibensko-kninska	Sisačko-moslavačka		
	Virovitičko-podravska	Varaždinska		
	Vukovarsko-srijemska	Zagrebačka		

Source: Authors calculations

Results of non-hierarchical k-means cluster analysis based on 11 economic and financial indicators using ANOVA table indicate that all indicators are significant at significance level of 5% except share of EUR loans in overall household loans. Indicators with the highest F value that are the largest contributors to the clustering solution are population, GDP per capita, share of housing loans in total loans to households and households loans per capita.

Table 2 *Results of non-hierarchical k-means cluster analysis based on 7 financial indicators*

Cluster 1	*Cluster 2*	*Cluster 3*	*Cluster 4*	*Cluster 5*
Bjelovarsko-bilogorska	Brodsko-posavska	Karlovačka	Dubrovačko-neretvanska	Grad Zagreb
Ličko-senjska	Međimurska	Koprivničko-križevačka	Istarska	
Požeško-slavonska	Osječko-baranjska	Krapinsko-zagorska	Primorsko-goranska	
Šibensko-kninska	Splitsko-dalmatinska	Sisačko-moslavačka	Zadarska	
Virovitičko-podravska	Varaždinska			
Vukovarsko-srijemska	Zagrebačka			

Source: Authors calculations

Results of non-hierarchical k-means cluster analysis based on 7 financial indicators indicate the significance of all indicators at significance level of 5%, except, again, share of EUR loans in overall household loans. The highest contributors to clustering solution, according to ANOVA table are share of housing loans in total loans to households, share of non-purpose consumer loans in overall household loans and share of CHF loans in total loans to households.

4. Discussion and conclusions

Obtained results indicate similar results comparing level of economic development and characteristics of household credit policy over the Croatian counties. Higher level of economic development of the City of Zagreb and Dubrovnik-Neretva, Istra, Primorje-Gorski Kotar and Zadar is also in line with the structure of household credit portfolio. These counties are characterised with higher level of housing loans and higher level of CHF households' loans. Less developed and rural counties are characterised with higher level of consumer and non-purpose loans as well as lover level of CHF denominated loans. This is especially seen in Karlovac, Koprivnica-Križevci, Krapina-Zagorje, Lika-Senj and Sisak-Moslavina County. Obtained results in a case of less developed counties are more diverse when we are comparing results in a case of used methodology and approach in this paper. Results in a case of county Split-Dalmatia, Osijek-Baranja, Varaždin and Zagreb could be consider as counties with medium level of development taking an insight in households loans structure, but still well behind the most developed counties considering households loans per capita and share of mortgages. Households loans structure, as a dominant part of banks credit policy in Croatia, is quite diverse and differences are again highly determinant by rural and level of economic development of a county. Conclusions of a paper and obtained results are emphasising a need for additional and extensive research in accessing comprehensive issue of household debt. Other approaches to this issue are also level of financial literacy, indebtedness, consumer protection as well as diversity of financial institutions and forms of consumer financing.

REFERENCES

Bahovec, V. et al. (2011): ***Multivariate analysis of socio-economic development indicators in selected European countries***, Collection of Papers of the Faculty of Economics and Business Zagreb, 9(1), 89-107

Bai, A. et al. (2015):***An Application of Factor Analysis in the Evaluation of Country Economic Rank****,* Procedia Computer Science, 54, 311-317.

CNB (2017): ***Banks Bulletin***, No. 30

Dow, S.C. and Rodríguez-Fuentes, C.J. (1997): ***Regional Finance: A Survey***, Regional Studies, 31:9, 903-920

DZS: ***Statistical Reports 2011; 2012; 2013; 2014; 2015*** [https://www.dzs.hr/Hrv/publication/subjects.htm] (accesed 12 March 2018)

DZS: ***Statistical Yearbook of the Republic of Croatia 2011; 2012; 2013; 2014; 2015*** [https://www.dzs.hr/hrv/publication/stat_year.htm] (accesed 1 March 2018)

HZZ: ***Yearbook 2011.; 2012; 2013; 2014; 2015*** [http://www.hzz.hr/default.aspx?id=10055) (accesed 20 February 2018)

Juan Fernández de Guevara & Joaquín Maudos (2009) Regional Financial Development and Bank Competition: Effects on Firms' Growth, Regional Studies, 43:2, 211-228

Krišto, J. (2014): ***Regionalne specifičnosti Hrvatske i tržišni potencijal društava za osiguranje***, Zbornik radova s međunarodne znanstveno-stručne konferencije Dani hrvatskog osiguranja 2014., Hrvatska gospodarska komora, Zagreb, pp. 105-118

Krišto, J., Mandac, I. (2015): ***Characteristics of bank financial intermediation in Croatian counties,*** Financial Theory & Practice, Institute of Public Finance, Zagreb, 39: 1, pp. 57-82

Krišto, J., Tuškan, B. (2016): ***Karakteristike kreditne politike banaka po županijama u Republici Hrvatskoj***, Ekonomija – Znanstveni skup u spomen prof. emer. dr. sc. Peri Jurkoviću „Mogućnosti djelovanja monetarne i fiskalne politike u maloj i otvorenoj ekonomiji“, 22: 2, Zagreb, pp. 315-333

Kurnoga Živadinović, N. (2007): ***Multivariate Classification of Croatian Counties****,* Collection of Papers of the Faculty of Economics and Business Zagreb, 5(1), pp. 1-15

MRRFEU (2018): ***Vrijednosti indeksa razvijenosti i pokazatelja za izračun indeksa razvijenosti prema novom modelu izračuna na županijskoj razini (razdoblje 2014.-2016.)***, [https://razvoj.gov.hr/o-ministarstvu/djelokrug-1939/regionalni-razvoj/indeks-razvijenosti/vrijednosti-indeksa-razvijenosti-i-pokazatelja-za-izracun-indeksa-razvijenosti-2018/3740](accesed 12 March 2018)

Rašić Bakarić, I. (2006):***Uncovering Regional Disparities – the Use of Factor and Cluster Analysis****,*Croatian Economic Survey, (9), pp. 11-34

Uredba o indeksurazvijenosti (NN 131/17)

Valverde, S. C. et al. (2007): ***Financial Innovations in Banking: Impact onRegional Growth,*** Regional Studies, 41(3), pp. 311-326.

Zakon o Gradu Zagrebu (NN 62/01, 125/08, 36/09 and 119/14)
Zakon o područjima županija, gradova i općina u Republici Hrvatskoj (NN 86/06, 125/06, 16/07, 95/08, 46/10, 145/10, 37/13, 44/13, 45/13 and110/15)
Zakon o regionalnom razvoju (NN 153/09 and 123/17)

Associate Professor Dubravka Mahaček, PhD.
Faculty of Medicine in Osijek
State Audit Office, Regional Office Požega
Kamenitavrata 8, 34000 Požega
E-mail address: dmahacek@vup.hr

Associate Professor Ivo Mijoč, PhD.
Faculty of Economics in Osijek
Trg Ljudevita Gaja 7, 31000 Osijek
E-mail address: ivo.mijoc@efos.hr

Mr.sc. Marko Eljuga
Hongoldonia d.o.o.
Vukovarska 432 a, 31000 Osijek
E-mail address: marko.eljuga@gmail.com

PERFORMANCE AUDIT OF MAINTENANCE OF UNCLASSIFIED ROADS

REVIZIJA UČINKOVITOSTI ODRŽAVANJA NERAZVRSTANIH CESTA

ABSTRACT

In addition to financial audit, performance audit is also conducted. The performance audit was conducted by the State Audit Office, which compiled individual county reports. The subject of the performance audit were the activities of local self-government units related to the maintenance of unclassified roads and the sources from which maintenance of unclassified roads is financed. The aim of this paper is to conduct research on maintenance of unclassified roads and expenses. The data was collected from individual reports on maintenance of unclassified roads that were prepared within the conducted performance audits for areas of individual counties. The collected data was consolidated, analysed and a conclusion about the efficiency of maintenance of unclassified roads in areas of all local self-government units was made. The assumption is that counties differ significantly by share of expenses for maintenance of unclassified roads in total expenses and expenditures, total length of unclassified roads and realised expenses for maintenance of unclassified roads per kilometre of road. This paper consolidates data from individual reports on county surface area, number of inhabitants, total length of unclassified roads, calculates the density of unclassified roads (in metres per square kilometre) and the length of unclassified roads (in metres per inhabitant), and performs comparison between counties. Total realised expenses for maintenance of unclassified roads in 2012are shown, which include realisation of all local self-government units within counties. From the presented data, conclusions are made on different shares of expenses for maintenance of unclassified roads within the available budgetary resources, their relation to the length of unclassified roads, and the activities that need to be taken in order to increase the efficiency of maintenance of unclassified roads are indicated. An overview of accounting recording of expenses for maintenance of unclassified roads is given and the importance of proper reporting highlighted.

Keywords*: performance audit, expenses, maintenance, unclassified roads, budget.*

SAŽETAK

Pored financijske revizije obavlja se i revizija učinkovitosti. Reviziju učinkovitosti je obavio Državni ured za reviziju te sastavio pojedinačna izvješća za područja županija. Predmet revizije učinkovitosti su bile aktivnosti jedinica lokalne samouprave vezane uz održavanje nerazvrstanih cesta i izvori iz kojih se financira održavanje nerazvrstanih cesta. Cilj rada je provesti istraživanje o održavanju nerazvrstanih cesta i rashodima za sve županije. Podatci su prikupljeni iz pojedinačnih izvješća o održavanju nerazvrstanih cesta koja su sastavljena u provedenim revizijama učinkovitosti za područja pojedinih županija. Prikupljeni podatci su objedinjeni te je izvršena analiza i zaključeno o učinkovitosti održavanja nerazvrstanih cesta na području svih jedinica lokalne samouprave. Pretpostavka je da se županije značajno razlikuju po udjelu rashoda za održavanje nerazvrstanih cesta u ukupno ostvarenim rashodima i izdacima, ukupnoj duljini nerazvrstanih cesta te ostvarenim rashodima za održavanje nerazvrstanih cesta po kilometru ceste. U radu se objedinjuju podatci, iz pojedinačno sastavljenih izvješća, o površini županije, broju stanovnika, ukupnoj duljini nerazvrstanih cesta, izračunava se gustoća nerazvrstanih cesta (u metrima po kvadratnom kilometru) i duljina nerazvrstanih cesta (u metrima po stanovniku) te obavlja usporedba po županijama. Prikazuju se ukupno ostvareni rashodi za održavanje nerazvrstanih cesta u 2012., koji u okviru županija uključuju ostvarenje svih jedinica lokalne samouprave. Iz prikazanih podataka se zaključuje o različitim udjelima rashoda za održavanje nerazvrstanih cesta u okviru raspoloživih proračunskih sredstava, njihovom odnosu prema duljini nerazvrstanih cesta te se ukazuje na aktivnosti koje je potrebno poduzeti u svrhu povećanja učinkovitosti održavanja nerazvrstanih cesta. Daje se prikaz knjigovodstvenog evidentiranja rashoda za održavanje nerazvrstanih cesta i ističe važnost pravilnog iskazivanja.

Ključne riječi: *revizija učinkovitosti, rashodi, održavanje, nerazvrstane ceste, proračun.*

1. Introduction

The State Audit Office conducted a performance audit of maintenance of unclassified roads in local self-government units, which encompassed all counties (20 counties) and the City of Zagreb, and reports for each of the counties (20 reports) and the City of Zagreb were prepared. The reports provide orders and recommendations, and evaluation of efficiency of maintenance of unclassified roads. The paper examines data on maintenance of unclassified roads, obtained in the process of conducted performance audits for local self-government units, from individually prepared reports by counties, compares data by counties, analyses it, and draws conclusions.Accounting recording of expenses for maintenance of unclassified roads and additional investments is shown.Conclusions regarding the situation in the area of unclassified roads and activities necessary for the purpose of regulating the mentioned area are drawn.Expenses for maintenance are realised within budgets of local units, including expenses for maintenance of unclassified roads.Their importance and role within budget expenses is significant, and they are realised on the basis of legal provisions.

Data on surfacearea, number of inhabitants and length of unclassified roads in municipalities within each county is presented in individual reports, and the density of the network of unclassified roads and the length per inhabitant are calculated. Data on total expenses of each local unit, expenses for maintenance of unclassified roads in 2012, and data on expenses for maintenance of unclassified roads per kilometre of roadis shown. In addition to the tasks that are placed under jurisdiction and the manner in which they are performed, legal basis regulatingunclassified roads is highlighted, as well as data on status entered in the land registry. Conclusions regarding expenses for maintenance of unclassified roads and efficiency are made.

The objectives of the performance audit were to evaluate the organisation and control of maintenance of unclassified roads, to evaluate the integrity of the programme of maintenance of unclassified roads, to evaluate whether tasks of maintenance of unclassified roads were entrustedin accordance with the regulations, to evaluate the implementation of the programme of maintenance of unclassified roads, and to evaluate the adequacy of legislative framework in the part that relates to maintenance of unclassified roads by local self-government units.The audit procedures were supposed toanswer the following questions: has local self-government unit passed an act regulatingmaintenance of unclassified roads, has a database on unclassified roads been established and are appropriate records being kept, has a programme of maintenance of municipal infrastructure (unclassified roads)been adopted, have tasks of maintenance of unclassified roads been entrusted to a contractor in accordance with legal provisions, and has a system of controls of maintenance of unclassified roads been established?Based on the conducted audit procedures, the State Audit Office has determinedthat maintenance of unclassified roads inall counties and the City of Zagreb is not efficient enough (Table 4). The paper presents the most frequent irregularities identified in the audits, which have been pointed out,and which need to be remedied in order to increase the efficiency of maintenance of unclassified roads.

2. Performance audit

The primary objective of an audit is to give an opinion on financial statements that serve different users. According to Soltani (2009), demand for the audit function exists in the process of communicating accounting information in which information is transferredto interested parties and potential users[1]. As an independent third party,auditestablishes alignmentbetween management claims and user criteria.

In addition to financial audits, performance audits are increasingly being performed.Performance audit,also known as value for money (VFM)audit, is expressed through three parameters, namely economy, efficiency and effectiveness. Economy implies minimising resource costs to obtain adequate quality, efficiency is the relationship between outputs, results and resources invested, and effectiveness are effects compared with the objectivesagainstresources invested for achievement of the objectives.

According to point40of Basic Principles in Government Auditing, INTOSAI[2] (International Organisation of Supreme Audit Institutions),performance audit is concerned with the audit of economy, efficiency and effectiveness and embraces:

- audit of the economy of administrative activities in accordance with sound administrative principles and practices, and management policies,
- audit of the efficiency of utilisation of human, financial and other resources, including examination of information systems, performance measures and monitoring arrangements, and other procedures for remedying identified deficiencies, and
- audit of the effectiveness of performance in relation to the achievement of the objectives of the audited entity, and audit of the actual impact of activities compared with the intended impact.

Subjects of performance audit[3]are state and public institutions, whose activities are subject to audit. In the Republic of Croatia, these are state sector entities, local and regional self-government units, legal entities partly or wholly financed from the budget, public companies,companies and other legal entities in which the Republic of Croatia orlocal and regional self-government unitshave majority ownership of stock or shares.

[1]Soltani, B. (2009): Revizija - Međunarodni pristup, MATE d.o.o., Zagreb, p. 46.
[2]INTOSAI, BasicPrinciplesinGovernmentAuditing, http://www.issai.org/media/12943/issai_100_e.pdf, p. 7.
[3]Akrap, V. etal. (2009): Državna revizija, MASMEDIA d.o.o., Zagreb, p. 152.

Reports on conducted performance audits differ from reports on conducted financial audits, precisely because there are differences between performance audit and financial audit.The scope of performance audit can be implementation of certain programmes by the audit subject, projects, activities, public procurement, concession system, provision of health services, environmental protection and the like.The purpose of performance audit is to determine the expected effects and final resultsof a programme, and toidentify areas where significant deviation from the set goals can be observed.

Individual reports on conducted audits of maintenance of unclassified roads have identified irregularities and omissions that need to be remedied in order to increase the efficiency of maintenance of unclassified roads.Some of the suggestions that were givenare listed below, pertaining to:

- adoptionof anact on unclassified roads, which needs toregulate management, maintenance and construction of unclassified roads, that is, specify what is understood under the term unclassified roads, what constitutes anunclassified road, who manages and who maintains a unified database on unclassified roads, what arethe tasks of managing and maintaining unclassified roads (regular and extraordinary maintenance, winter service) and who performs them.The act should regulate activities of construction and reconstruction of unclassified roads and who performs them,prescribe measures for the protection of unclassified roads and determine who performs control and supervision of unclassified roads.It is proposed to regulate the financing of unclassified roads and regulate entry of unclassified roads into land registry in accordance with the provisions of the Roads Act,
- adoption of regulations on the content and method of maintenance of a unified database on unclassified roads, cataloguingunclassified roads in the areaof local self-government unit and the need to establish and maintain a unified database on unclassified roads, which should contain the name or designation of the unclassified road, description of the road, length and surface area of the unclassified road, the number of the cadastral parcel and the name of the cadastral municipality on which the road is built, - undertaking activities for entry of unclassified roads into land registry as a public good in general use and as an inalienable property of local self-government units,
- after establishing a unified database (list)on unclassified roads, it is necessary to set up analytical accounting records of unclassified roads with data on the value of individual roads, and the total value of unclassified roads in accounting records,
- adoption of anannual programme of maintenance of unclassified roads, which should include description (type), scope (amount) and estimation of costs by individual maintenance tasks and by individual unclassified roads for which execution of maintenance tasks are planned, and the need to monitor implementation of the annual municipal infrastructure maintenance programme,
- amending and supplementing the annual programme of maintenance of unclassified roads with all prescribed elements, inthe event that during the year there is a change in the scope and type of maintenance tasks on unclassified roads,
- preparation of reportson execution of the programme of maintenance of unclassified roadsaccording to the realised expenses for maintenance of unclassified roads,- in caseswhen somemaintenance tasks on unclassified roads in a municipality are performed by the municipality’s own works department, it is necessary that the programme of maintenance of unclassified roads shows the total financial resources required for the implementation of the programme, including the funds needed to finance the expenses (for employees’ salaries and for material costs) of the works department,
- performing maintenance of unclassified roads in accordance with the adopted decision on performing municipal activities in the area of local self-government unit.

The State Audit Office has assessed that implementation of the given recommendations would increase compliance with laws and other regulations, as well as the efficiency of maintenance of unclassified roads.Recommendations for each of the counties were provided through reports. A report covers all local self-government units in a county.

3. Legal basis regulating unclassified roads

The following is the legislation regulating the area related to maintenance of unclassified roads. The legal status of unclassified roads is regulated by the provisions of Articles 101 and 107 of the Roads Act[4], which entered into force on July 28, 2011,according to which unclassified roads are a public good in general use owned by the local self-government unit at whose territory they are located.The provisions of Articles 107through 109of the Roads Actstipulate the management, construction andmaintenance of unclassified roads,the financing of construction, reconstruction and maintenance, and the protection of unclassified roads.It is determinedthat the management, construction andmaintenance of unclassified roads in local self-government units (municipalities and cities) are performed in the manner prescribed for the performance of municipal activities under thePublic Utilities Act[5].A unit of local self-government may establish a company in its ownership for the purpose of performing the tasks of managing, constructing and maintaining unclassified roads, with the application of legal provisionsrelating to construction and reconstruction of public roads (Article 23of the Roads Act), maintenance of public roads (Article 26of the Roads Act), and concession of works on public roads (Article 33of the Roads Act).Registration of existing unclassified roads in the cadastre and entry into land registry,and activities to be undertaken by local self-government units related to entry into land registry are stipulated by the provisions of Articles 131 through 133 of the said Act.

Recording of unclassified roads in accounting records shall be carried out in accordance with theprovisions of Articles 5, 7, 8, 18 and 19 of the Ordinance on Budgetary Accounting and Chart of Accounts[6], which prescribe recognition of assets in budgetary accounting, budgetary accounting records, and principles of recognition and valuation of assets in the accounting records.

With regard to the audit objectives, it is necessary to carry out auditing procedures. The auditor must determine whether the analytics of the observed property are consistent with the ledger account. When the audit objective is to determine ownership, Messier (1998) states that, in order to prove ownership, checks of written agreements or documents relating to ownership are carried outwhen testing balances[7]. Local self-government units are legally granted ownership of unclassified roads, and therefore, regarding ownership, auditor needs to check whether unclassified roads are registered as property of the local self-government unit at whose territory they are located.Based on theconductedaudit procedures it was establishedthat it is necessary to carry out actions related to the registration of ownership of unclassified roads.

Maintenance of unclassified roadsis subject to the provisions of the Public Utilities Act, which sets out the principles, manner of performing and financing public utilitiesand other issues related to the provision of public utilities. The principles of performing municipal services are:

- ensure permanent and quality provision of municipal services
- ensure that utility facilities and equipment are maintained in good working order
- ensure that municipal services are performed in accordance with the principles of sustainable development
- ensure transparency of work.

[4]RoadsAct, OfficialGazette84/11, 22/13, 54/13 and 148/13

[5]PublicUtilitiesAct, OfficialGazette 36/95, 70/97, 128/99, 57/00, 129/00, 59/01, 26/03, 82/04, 110/04, 178/04, 38/09, 79/09, 153/09, 49/11, 84/11, 90/11, 144/12, 94/13 and 153/13

[6]Ordinance on BudgetaryAccountingandChartofAccounts, OfficialGazette114/10 and 31/11

[7]Messier, W. F., Jr. (1998):Revizija: priručnik za revizore i studente, Faber &Zgombić Plus, Zagreb, p. 562.

Municipal services are:drinking water supply, drainage and wastewater treatment, public passenger transport, cleaning, municipal waste disposal, maintenance of unclassified roads, green markets, maintenance of cemeteries and crematories and transport of the deceased, chimney sweeping and public lighting.Representative body of the local self-government unit may pass a decision on services of local importance, which,under the conditions of the Public Utilities Act, are considered municipal services.
Municipal services may be performed by:a company founded by a local self-government unit, a public institution established by a local self-government unit,a service-works department (founded by a local self-government unit),alegal and natural person under a concession contract,a legal and natural person under a contract on assignment of municipal services.
The conducted audit procedures established the manner in which maintenance of unclassified roadswas performed and whether it was done in compliance with the legal provisions regulating the said area.

4. Audit of expenses for maintenance of unclassified roads

When performing municipal services, it is necessary to determine the total realised expenses for maintenance of municipal infrastructure within which for maintenance of unclassified roads have been recorded. Expenses for maintenance of municipal infrastructure are usually related to expenses for maintenance of public areas and graveyards, maintenance of public lighting, maintenance and modernisation of roads and winter service, and landfill remediation. Realisation of the mentioned expenses is covered by the report on realisation of the programme of maintenance of municipal infrastructure, which is submitted to the municipal council.
Sources of funds for the implementation of the said programme are determined, which are most often realisedfrom municipal fees and contributions and other sources[8], and monitoring of collection of all planned types of revenues affects investment opportunities in the local self-government unit area.It is necessary to determine how much is planned by the programme of maintenance of municipal infrastructure,and in what amount for specific purposes, includingmaintenance of unclassified roadsand field paths, and winter road maintenance. In most local self-government units, the said programmedoes not contain a description and scope of maintenance work, i.e., planned volume of work and estimation of individual costs by unclassified roads, and control of programme execution is therefore prevented.Provision ofArticle 28 of the Public Utilities Act (Official Gazette 36/95, 70/97, 128/99, 57/00, 129/00, 59/01, 26/03, 82/04, 110/04, 178/04, 38/09, 79/09, 153/09, 49/11, 84/11, 90/11, 144/12, 94/13 and 153/13)stipulates that it is mandatory for aprogramme to determinedescription and scope of maintenance work with estimation of individual costs by activities, and declaration of financial resources necessary for the implementation of the programme, with indication of funding sources.
In the audit procedureit is necessary to establish to what the expenses for maintenance of unclassified roadsrelate to and in what amount they are realised.The following is an example of an irregularity established in the auditing process. Expenses for maintenance of unclassified roadswere related to winter service, applying gravel to roads, and applying gravel to field paths and macadam roads. Based on the conducted tender procedures, contracts for performance of municipal services of maintenance of unclassified roads and for winter maintenance of unclassified roads have been concluded with the selected bidders.Contractors have issued final certificates and invoices for works performed during 2012.It was established that expenses amounting to HRK 65,000.00 were realised based on invoices issued without concluding a contract, relating to the purchase of gravel and machinery operation services. Pursuant to the Decision on Municipal Services, which was

[8]More details about dedicated revenues and receipts:Mijoč, I., Mahaček, D., (2013): Financijska revizija i namjensko korištenje sredstava, Ekonomski vjesnik, Vol. 26, No. 1,pp. 161-173.

adopted by the local self-government unit, it is determined that performance ofactivities of maintenance of unclassified roads may be entrusted to legal and natural personsbased on a written contract, and the conditions and criteria for implementation of aprocedure for collecting bids or a public tender are prescribed.Article 3 of the mentioned Decision stipulates that procedures for collecting bids arecarried out when the value of municipal services activities in the annual amount is up to HRK 200,000.00, while public tendersare carried out for values aboveHRK 200,000.00.The audit has found that the above method of performing municipal services of maintenance of unclassified roads is not in accordance with the Decision on Municipal Servicesand the provision of Article 4 of the Public Utilities Act, whichstipulates that municipal services can be performed by a company, a public institution or a works department founded by a unit of local self-government, and a legal or natural person based on a concession contract or a contract on assignment of municipal services.The selection of the person to be entrusted with the performance of municipal services based on a written contract is carried out by means of a public tender or by collecting bids.After the procedure has been carried out, the representative body shall decide on the choice of the person to be entrusted with the performance of municipal serviceson the basis of a contract in accordance with the provisions of Article 15 of the Public Utilities Act.Based on the establishedfacts, in the audit procedure it was ordered to adopt a programme of maintenance of municipal infrastructure with all the prescribed elements, and to perform municipal services of maintenance of unclassified roads in accordance with the provisions of the Public Utilities Act, according to which it is necessary to establish the conditions and criteria for implementation of aprocedure for collecting bids or a public tender for entrusting the performance of maintenance of unclassified roads, to adopt a decision on the selection of a legal or natural person who willperform the tasks based on acontract, after performing the prescribed selection process, and conclude a contract on entrusting the performance of maintenance of unclassified roads with all the prescribed elements (work for which the contract is concluded, period for which the contract is concluded, type and scope of work, manner of determining the price for the performed work, supervision and control of the performed work, method and time of payment, contractor's guarantee on fulfilment of the contract).Entrusting the performance of municipal services is carried out on the basis of the conducted procedure.The following is an example of this. A public tender for the performance of regular maintenance of unclassified roads and footpaths on the city's territory was conducted in accordance with the provisions of the Public Utilities Act, and a decision on selection of the contractor was made by the council. A framework contract for four years (201X,201Y,201Zand 201W) was concluded, with the contracted value of works amounting to HRK 10,000,000.00(excluding value added tax). The subject of the contract is the maintenance and protection of unclassified roads and footpaths on the city's territory, according to the offer and the bill of quantities, which is an integral part of the contract.Based on the framework contract, individual annual contracts have been concluded, in accordance with the city's Programme of Maintenance of Municipal Infrastructure.In January of 201X,the contract on maintenance of unclassified roads and footpaths on the city's territory for 201Xwas concluded,with the contracted value of HRK 2,600,000.00 (excluding value added tax).The works are covered by the Programme of Maintenance of Municipal Infrastructurefor201X and billed in monthly temporary certificates according to the agreed unit prices. During the term of the contract, in the event of a change in the amount determined by the plan and the Programme of Maintenance of Unclassified Roads for the current year, the city has the right to change the amount, that is, to reduce or increase the scope or value of contracted works.At the end of the year, it is necessary to compare the works performed andworks foreseen by the Programme, indicate deviations and explain the reasons for them.

5. Recording expenses for maintenance of unclassified roads

Expenses for maintenance of unclassified roadsare recorded on the basis of the Budgetary Chart of Accounts withinclass 3, operating expenses[9]. Operating expenses include the results of transactions that affect a decrease in net worthand are classified into account groups, within which is the account group 32, material expenses, which includes recording expenses for current and investment maintenance, which involves continuous activities that maintain or restore assets to their functional state. Expenses for maintenance of unclassified roadsare recorded within the stated accounts.
In addition to the expenses for maintenance of unclassified roads, road construction expenses, which were not the subject of the conducted performance audit, are also realised in the budget.Road construction expenses are recorded on the basis of the Budgetary Chart of Accountswithin class 4 – expenses for the acquisition of non-financial assets. These are all investments made in the process of acquiring non-financial assets and they are classified according to their manifestations.Recording of business transactions is carries out in accordance with the provisions of the Ordinance on Budgetary Accounting and Chart of Accounts (Official Gazette 114/10 and 31/11), after the said asset is recognised in accounting records.
Following is an example of recording of expenses for maintenance of unclassified roadsand expenses for additional investment in non-financial assets.

Table 1 *Recording expenses for maintenance of unclassified roads*

No.	Description of business transaction	Owes	Claims	Amount owed	Amount claimed
1.	Services of current and investment maintenance				
a)	Received invoice for the service of current and investment maintenance	32321	23232	15,000.00	15,000.00
b)	Payment of supplier's invoice	23232	11111	15,000.00	15,000.00
2.	Additional investment in non-financial assets				
a)	Received supplier's statement for payment	42149	24214	80,000.00	80,000.00
b)	Increase in the value of long-term non-financial assets	05113	91111	80,000.00	80,000.00
c)	Payment of supplier's invoice	24214	11111	80,000.00	80,000.00

Source: Authors

Table 1 showsthe manner of recording of services of current and investment maintenance, which are recordedin the account of expenses and additional investments, which, in addition to the account of expenses, are also recorded in the account of assets, in accordance with the regulations regulating the area.

6. Analysis of data on maintenance of unclassified roads at county level

Based on individual reports on the conducted performance audit of maintenance of unclassified roads in local self-government units by counties (21 reports), data for counties and the City of Zagreb was collected and consolidated,which is shown in Table 2. An analysis of data was conducted, and conclusions were made.Data for each county and the City of Zagreb is given, relating to surface area of the county in km^2, number of inhabitants, total length of unclassified

[9]Crnković, L., Mijoč, I., Mahaček, D. (2010): Osnove revizije, Ekonomski fakultet u Osijeku, Osijek, p. 312. – see more detailaboutthe total plannedandrealizedbudgetaryexpensesandexpenditures

roads(in metres), density of the network of unclassified roads (in m/km²),and length of unclassified roads (in metres per inhabitant).

Table 2 *Counties and the City of Zagreb by surface area, number of inhabitants, length of unclassified roads and average density of the network of unclassified roads in relation to surface area and number of inhabitants*

Counties	Surface area (in km²)	Number of inhabitants (2011 Census)	Total length of unclassified roads (in metres)	Density of the network of unclassified roads (in metres/km²)	Length of unclassified roads (in metres/inhabitant)
1	2	3	4	5 (4/2)	6(4/3)
Zagreb	3,077.96	317,606	3,235,597	1,051.21	10
Krapina-Zagorje	1,232.33	132,892	2,648,549	2,149.22	20
Sisak-Moslavina	4,466.96	172,439	1,974,645	442.06	11
Karlovac	3,650.52	128,899	3,126,599	856.48	24
Varaždin	1,261.15	175,951	1,896,030	1,503.41	11
Koprivnica-Križevci	1744.10	115,584	2,554,846	1,464.85	22
Bjelovar-Bilogora	2.640.51	119,764	1,428,544	541.01	12
Primorje-Gorski Kotar	3,534.00	296,195	2,270,459	642.00	8
Lika-Senj	5,380.00	50,927	2,092,740	388.99	41
Virovitica-Podravina	2,030.77	84,836	821,099	404.33	10
Požega-Slavonia	1,818.51	78,031	1,921,825	1,056.81	23
Brod-Posavina	2,040.63	158,559	803,583	393.79	5
Zadar	3,646.00	170,017	1,655,371	454.02	26
Osijek-Baranja	4,252.97	304,899	3,548,485	834.35	12
Šibenik-Knin	3,029.35	109,375	2,685,140	886.37	25
Vukovar-Srijem	2.484.83	180,117	1,018,980	410.08	6
Split-Dalmatia	4,466.40	454,798	4,572,160	1,023.68	10
Istria	2,850.80	208,055	2,691,163	944.00	13
Dubrovnik-Neretva	1.775.93	122,568	2,804,080	1,578.94	23
Međimurje	729.54	113,804	1,461,940	2,003.92	13
City of Zagreb	641.35	790,017	2,449,000	3,818.50	3
Total	56,754.61	4,285,333	47,660,835	839.77	11

Source:Created by authors according to the data from individual reports on the conducted performance audit of maintenance of unclassified roads in local self-government units by counties (21 reports)

From the data presented we observe that the Lika-Senj County, which has the smallest population, has the largest surface area, while the City of Zagreb has the smallest surface area and the largest number of inhabitants. The Split-Dalmatia County has the largest total length of unclassified roads (4,572,160 m), while the Brod-Posavina County has the smallest total length of unclassified roads (803,583 m).

The density of the network of unclassified roads was calculated by dividing the total length of unclassified roads in the county, i.e. the City of Zagreb, by the total surface area.The indicator is higher if the total length of unclassified roads is larger or if the surface area is smaller.The City of Zagreb has the highest density of the network of unclassified roads (3,818.50 m/km^2), while the Lika-Senj County has the lowest density (388.77 m/km^2). The City of Zagreb is followed by the Krapina-Zagorje County (2,149.22 m/km^2), the Međimurje County (2,003.92 m/km^2),andthe Dubrovnik-Neretva County (1,578.94 m/km^2). The average density of the network of unclassified roads is 839.77 m/km^2. From a total of 20 counties and the City of Zagreb, eleven counties and the City of Zagreb have a higher than average density of the network of unclassified roads, while nine counties have a lower than average density. We see two extremely high values of the density of the network of unclassified roads.The first one is for the City of Zagreb, which has the highest density, although it is the smallest by surface area, and the largest by population. We conclude that the City of Zagreb is the area with the most developed road network. The second extreme value is for the Lika-Senj County, which has the lowest density, the largest surface area, and it is the smallest according to population.This confirms a lower level of development of this county.

The length of unclassified roads was calculated by dividing the total length of unclassified roads in the county, i.e. the City of Zagreb, by the number of inhabitants.The indicator is higher if the total length of unclassified roads is larger or if the number of inhabitants is smaller. The largest length of unclassified roads is in the Lika-Senj County (41 metres per inhabitant), and the smallest length of unclassified roads is in the City of Zagreb (3 metres per inhabitant). The Lika-SenjCounty is followed by the Zadar County(26 metres per inhabitant), the Šibenik-KninCounty(25 metres per inhabitant), and the KarlovacCounty(24 metres per inhabitant). The average length of unclassified roads for all units is 11 metres per inhabitant. From a total of 20 counties and the City of Zagreb, twelve counties have a larger than average length of unclassified roads per inhabitant, two counties have average length, while the City of Zagreb and six counties have a smaller than average length.

The obtained data indicatesthat there are differences in the level of development of the network of unclassified roads in the Republic of Croatia.

Ladavac (2000)[10]states that transport infrastructure, including road infrastructure, is a part of the overall infrastructure, and that by analysing data on the development of the road network, the achieved level of economic development of a country can be assumed.He also states that, compared to developed European countries, indicators of development of the road network of the Republic of Croatiaplace Croatia in the group of less developed economies, while by examining the development of the road network within the Republic of Croatia, at the level of region-county, differences between them are observed, confirming the claim that economically more developed regions also have a more developed road network.According to the above, we note that analysing data on the development of the road network leads to other significant conclusions, which is not covered by this paper.

***Table 3** Expenses for maintenance of unclassified roads and their share in total realised expenses, and average realised expenses per km of road in local self-government units in the Republic of Croatia*

Counties	Total realised expenses and expenditures in 2012 (in HRK)	Realised expenses for maintenance of unclassified roads in 2012 (in HRK)	Share	Total length of unclassified roads (in km)	Realised expenses for maintenance of unclassified roadsper km of road (in HRK)
1	2	3	4(3/2)	5	6(3/5)
Zagreb	1,024,949,209	78,896,641	7.7	3,235.597	24,384
Krapina-Zagorje	283,682,883	17,213,271	6.1	2,648.549	6,499
Sisak-Moslavina	523,846,733	32,794,618	6.3	1,974.645	16,608
Karlovac	360,073,471	25,606,838	7.1	3,126.599	8,190
Varaždin	426,506,737	12,454,088	2.9	1,896.000	6,569
Koprivnica-Križevci	355,814,320	20,655,198	5.8	2,554.846	8,085
Bjelovar-Bilogora	251,344,419	11,758,054	4.7	1,428.544	8,231
Primorje-Gorski Kotar	2,012,692,182	56,795,294	2.8	2,270.459	25,015
Lika-Senj	226,719,622	8,358,102	3.7	2,092.740	3,994
Virovitica-Podravina	197,394,490	7,341,893	3.7	821.099	8,942
Požega-Slavonia	168,696,616	6,301,617	3.7	1,921.825	3,279
Brod-Posavina	279,523,208	7,312,060	2.6	803.583	9,099
Zadar	678,133,096	20,311,714	3.0	1,655.371	12,270
Osijek-Baranja	820,519,996	28,852,073	3.5	3,548.485	8,130

[10]Ladavac, J.(2000): Analiza razvijenosti cestovne mreže u Republici Hrvatskoj: pregled po županijama, Ekonomski pregled, Vol. 51, No. 3-4, 359-374 članak), p. 360 (https://hrcak.srce.hr/file/98023, accessed July 10, 2014)

Counties	Total realised expenses and expenditures in 2012 (in HRK)	Realised expenses for maintenance of unclassified roads in 2012 (in HRK)	Share	Total length of unclassified roads (in km)	Realised expenses for maintenance of unclassified roadsper km of road (in HRK)
Šibenik-Knin	390,983,270	12,353,606	3.2	2,685.140	4,601
Vukovar-Srijem	410,812,732	17,768,847	4.3	1,018.980	17,438
Split-Dalmatia	1,695,368,788	54,739,595	3.2	4,572.160	11,972
Istria	1,200,166,362	38,689,875	3.2	2,691.163	14,377
Dubrovnik-Neretva	602,157,513	18,210,464	3.0	2,804.080	6,494
Međimurje	231,723,728	3,490,000	1.5	1,461.940	2,387
City of Zagreb	6,433,030,859	328,723,325	5.1	2,449.000	134,228
Total	18,574,140,234	808,627,173	4.4	47,660.835	16,966

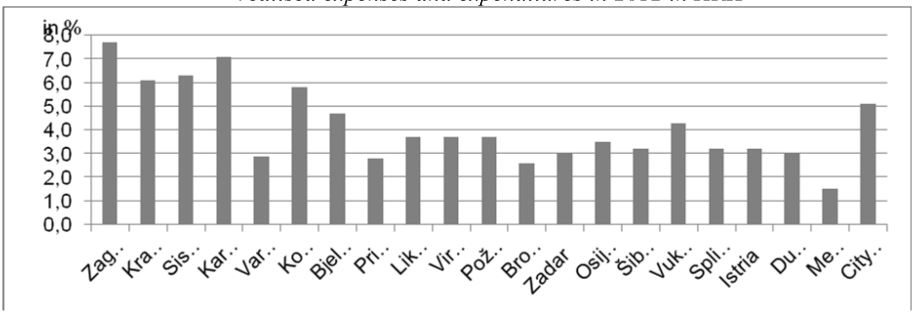
Source:Created by authors according to the data from individual reports on the conducted performance audit of maintenance of unclassified roads in local self-government units by counties (21 reports)

Table 3 provides data on total realised expenses and expenditures, realised expenses for maintenance of unclassified roads, share of realised expensesfor maintenance of unclassified roads in total realised expenses and expenditures for each of the counties and the City of Zagreb, total length of unclassified roads (in kilometres), and realised expenses for maintenance of unclassified roadsper kilometre of road in HRK.

The City of Zagreb has the highest total realised expenses and expenditures, and realised expenses for maintenance of unclassified roads, in the absolute amount. The share of expenses for maintenance of unclassified roads in total expenses and expenditures of the City of Zagreb 5.1%. The Požega-Slavonia Countyhas the lowest total expenses and expenditures in the absolute amount (HRK 168,696,616.00), and the share of expenses for maintenance of unclassified roadsis 3.7%, which is lower than the average share. The lowest realised expenses for maintenance of unclassified roadswere achieved by the MeđimurjeCounty (HRK 3,490,000.00), and its share of expenses for maintenance of unclassified roadsis 1.5%. The average share of expenses for maintenance of unclassified roadsfor all units is 4.4%. From a total of 20 counties and the City of Zagreb, six counties and the City of Zagreb have a larger than average share, while fourteen counties have a smaller than average share.

Realised expenses for maintenance of unclassified roads are expressed per kilometre in HRK, and are calculated by dividing the realised expenses for maintenance of unclassified roadsby the total length of unclassified roads in kilometres.The lowest expenses for maintenance of unclassified roadswere realised in the Međimurje County (2,387.00 HRK/km), while the expenses were the highest in the City of Zagreb (134,228.00 HRK/km), from which it follows that expenses for maintenance of unclassified roadsof the City of Zagreb were 55.2 times, orHRK 131,841.00 higher than those of the Međimurje County.The average realised expense for maintenance of unclassified roadsper km of road (in HRK) for all units is HRK 16,966.00. From a total of 20 counties and the City of Zagreb, three counties and the City of Zagreb have higher than average expenses for maintenance of unclassified roads per km of road (in HRK), while seventeen counties have lower than average expenses.

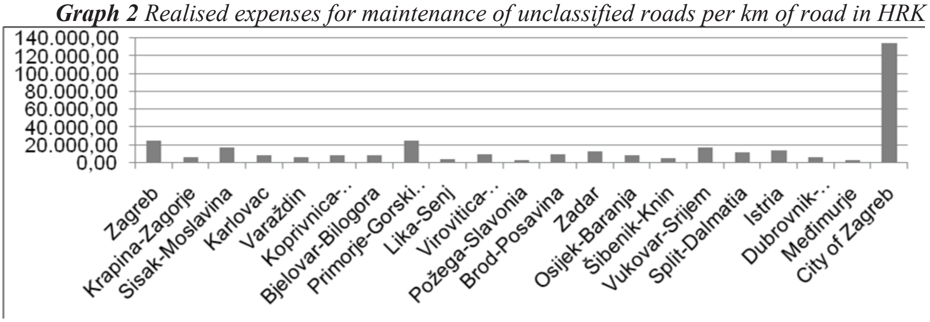
Graph 1 *Share of realised expenses for maintenance of unclassified roads in relation to total realised expenses and expenditures in 2012 in HRK*



Source: Data from Table 3, column 4

Graph1shows share of total realised expenses for maintenance of unclassified roads in relation to total realised expenses and expenditures for counties and the City of Zagreb. The lowest share is in the Međimurje County (1.5%),and the highest in the Zagreb County (7.7 %). The average share is 4.4%.

Graph 2 *Realised expenses for maintenance of unclassified roads per km of road in HRK*



Source: Data from Table 3, column 6

Data from Table 3, column 6 was usedfor Graph 2, which shows realised expenses for maintenance of unclassified roadsper kilometre of road (in HRK), which are the lowest in the Međimurje County (HRK 2,387.00), and the highest in the City of Zagreb (HRK 134,228.00). The average expense is HRK 16,966.00.

Table 4 *Realised expenses for maintenance of unclassified roads for counties and the City of Zagreb and their share in total realised expenses for maintenance of unclassified roads and assessment of efficiency*

Counties	Realised expenses for maintenance of unclassified roads in 2012 (in HRK)	Share of realised expenses by counties, in total expenses of the Republic of Croatia, for maintenance of unclassified roads	Assessment of efficiency of maintenance of unclassified roads, insufficiently/sufficiently efficient
1	2	3	4
Zagreb	78,896,641	9.8	insufficiently
Krapina-Zagorje	17,213,271	2.1	insufficiently
Sisak-Moslavina	32,794,618	4.1	insufficiently

Counties	Realised expenses for maintenance of unclassified roads in 2012 (in HRK)	Share of realised expenses by counties, in total expenses of the Republic of Croatia, for maintenance of unclassified roads	Assessment of efficiency of maintenance of unclassified roads, insufficiently/sufficiently efficient
Karlovac	25,606,838	3.2	insufficiently
Varaždin	12,454,088	1.5	insufficiently
Koprivnica-Križevci	20,655,198	2.6	insufficiently
Bjelovar-Bilogora	11,758,054	1.5	insufficiently
Primorje-Gorski Kotar	56,795,294	7.0	insufficiently
Lika-Senj	8,358,102	1.0	insufficiently
Virovitica-Podravina	7,341,893	0.9	insufficiently
Požega-Slavonia	6,301,617	0.8	insufficiently
Brod-Posavina	7,312,060	0.9	insufficiently
Zadar	20,311,714	2.5	insufficiently
Osijek-Baranja	28,852,073	3.6	insufficiently
Šibenik-Knin	12,353,606	1.5	insufficiently
Vukovar-Srijem	17,768,847	2.2	insufficiently
Split-Dalmatia	54,739,595	6.8	insufficiently
Istria	38,689,875	4.8	insufficiently
Dubrovnik-Neretva	18,210,464	2.3	insufficiently
Međimurje	3,490,000	0.4	insufficiently
City of Zagreb	328,723,325	40.7	insufficiently
TOTAL	808,627,173	100.00	insufficiently

Source:Created by authors according to the data from individual reports on the conducted performance audit of maintenance of unclassified roads in local self-government units by counties (21 reports)

Table 4 shows the realised expenses for maintenance of unclassified roadsfor counties and the City of Zagreb in the absolute amount, and calculation of the share of each county and the City of Zagreb in total realised expenses for maintenance of unclassified roads. Each of the reports on the conducted performance audit gives an assessment of efficiency for the county, which is shown in Table 4. We observe that the City of Zagreb participates the most in total realised expenses for maintenance of unclassified roads (40.7%), followed by the Zagreb County (9.8%), the Primorje-Gorski Kotar County (7.0%), the Split-Dalmatia County (6.8%), while the remaining 17 counties have a total share of 35.7%, i.e. have individual shares of less than 5.0%.

7. Conclusion

Based on the individual reports on the conducted performance audits whose subject were the activities of local self-government units related to maintenance of unclassified roads and the sources from which maintenance of unclassified roads is financed, the paper examined data and performed comparison between counties, analysis was conducted and conclusions about the efficiency of maintenance of unclassified roads in areas of all local self-government units were made.The paper has confirmed the assumption that countiesdiffer significantly both by the absolute amount of expenses for maintenance of unclassified roads and by the share of expenses for maintenance of unclassified roads in total realised expenses and expenditures, for which it was established that the average share is 4.4%, while the lowest share is in the Međimurje County (1.5%), and the highest in the ZagrebCounty (7.7%).They differ in the total length of unclassified roads, so that the Split-Dalmatia County has the largest total length of unclassified roads (4,572,160 m), while the Brod-PosavinaCounty has the smallest total length of unclassified roads (803,583 m). The Lika-Senj Countyhas the largest length (in metres per inhabitant) of unclassified roads (41),the City of Zagreb has the smallest length (3), while the average length is 11 metres per inhabitant. The density of the network of unclassified roads (in metres/km²) is the highest in the City of Zagreb (3,818.50), and the lowest in theLika-Senj County (388.77), while the average density is 839.77. The differences are also significant according to realised expenses for maintenance of unclassified roadsper kilometre of road, which are the lowestin the Međimurje County (HRK 2,387.00), and the highest in the City of Zagreb(HRK 134,228.00), while the average expense is HRK 16,966.00.The City of Zagreb (40.7%) has the most significant share in the total realised expenses for maintenance of unclassified roadsof the Republic of Croatia, followed by the Zagreb County (9.8%), while the MeđimurjeCounty has the lowest share (0.4%). All other counties together participate with a share of 40.1%.We conclude that expenses for maintenance of unclassified roads vary by county in absolute amount and share, depending on the availability of budget funds. The paper points to the need to increase investment inmaintenance of unclassified roads, which are uneven by countiesand depend on available budgetary resources. In order to increase the efficiency of maintenance of unclassified roads, the conducted performance audits give suggestions per taining to adoption of an act on unclassified roads by local self-government units, undertaking activities for entry of unclassified roads into land registry as a public good in general use and as an inalienable property of local self-government units, establishment of a unified database on unclassified roads, entrusting tasks of maintenance of unclassified roads in accordance with the adopted regulations, etc. From the presented assessment of efficiency for all counties and the City of Zagreb, we observe that maintenance of unclassified roadsis rated as insufficiently efficient. Expenses for maintenance of unclassified roads are recorded in accordance with the regulations regulating budgetary accounting, and they served as the basis for conducting the performance audit, from which we conclude about the importance of the accounting system in the overall reporting process.

REFERENCES

Akrap, V., et al. (2009):***Državna revizija***, MASMEDIA d.o.o., Zagreb

Crnković, L.,Mijoč, I., Mahaček, D. (2010): ***Osnove revizije***, Ekonomskifakultet u Osijeku, Osijek

Messier, Jr., W. F. (1998): ***Revizija: priručnik za revizore i studente,*** Faber & Zgombić Plus, Zagreb

Mijoč, I., Mahaček, D.(2013): ***Financijska revizija i namjensko korištenje sredstava***, Ekonomski vjesnik, Vol. 26, No. 1, pp. 161-173

Ordinance on Budgetary Accounting and Chart of Accounts, Official Gazette 114/10 and 31/11

Public Utilities Act, Official Gazette 36/95, 70/97, 128/99, 57/00, 129/00, 59/01, 26/03, 82/04, 110/04, 178/04, 38/09, 79/09, 153/09, 49/11, 84/11, 90/11, 144/12, 94/13 and 153/13

Roads Act, Official Gazette 84/11, 22/13, 54/13 and 148/13

Soltani, B. (2009): ***Revizija –Međunarodni pristup,*** MATE d.o.o., Zagreb

Internet sources:

INTOSAI, Basic Principles in Government Auditing, http://www.issai.org/media/12943/issai_100_e.pdf (accessed 22 May 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Zagreb County, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/01-odrzavanje-nerazvrstanih-cesta-zagrebacka-zupanija.pdf(accessed July 20 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Krapina-ZagorjeCounty,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/02-odrzavanje-nerazvrstanih-cesta-krapinsko-zagorska-zupanija.pdf(accessed July 20 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Sisak-MoslavinaCounty, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/03-odrzavanje-nerazvrstanih-cesta-sisacko-moslavacka-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the KarlovacCounty,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/04-odrzavanje-nerazvrstanih-cesta-karlovacka-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the VaraždinCounty,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/05-odrzavanje-nerazvrstanih-cesta-varazdinska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Koprivnica-KriževciCounty, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/06-odrzavanje-nerazvrstanih-cesta-koprivnicko-krizevacka-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Bjelovar-BilogoraCounty,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/07-odrzavanje-nerazvrstanih-cesta-bjelovarsko-bilogorska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Primorje-Gorski KotarCounty,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/08-odrzavanje-nerazvrstanih-cesta-primorsko-goranska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Lika-SenjCounty,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/09-odrzavanje-nerazvrstanih-cesta-licko-senjska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Virovitica-PodravinaCounty, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/10-odrzavanje-nerazvrstanih-cesta-. viroviticko-podravska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Požega-Slavonia County, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/11-odrzavanje-nerazvrstanih-cesta-pozesko-slavonska-zupanija.pdf (accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Brod-PosavinaCounty, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/12-odrzavanje-nerazvrstanih-cesta-brodsko-posavska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of theZadar County, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/13-odrzavanje-nerazvrstanih-cesta-zadarska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Osijek-BaranjaCounty, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/14-odrzavanje-nerazvrstanih-cesta-osjecko-baranjska-zupanija.pdf(accessed July 20 2014)
Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of theŠibenik-KninCounty, http://www.revizija.hr/izvjesca/2013-rr-

2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/15-odrzavanje-nerazvrstanih-cesta-sibensko-kninska-zupanija.pdf(accessed July 20 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Vukovar-SrijemCounty, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/16-odrzavanje-nerazvrstanih-cesta-vukovarsko-srijemska-zupanija.pdf(accessed July 20 2014

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Split-DalmatiaCounty, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/17-odrzavanje-nerazvrstanih-cesta-splitsko-dalmatinska-zupanija.pdf(accessed July 20 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the IstriaCounty-regioneIstriana, http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/18-odrzavanje-nerazvrstanih-cesta-istarska-zupanija.pdf(accessed July 20 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the Dubrovnik-Neretva County,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/19-odrzavanje-nerazvrstanih-cesta-dubrovacko-neretvanska-zupanija.pdf(accessed July 20 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units of the MeđimurjeCounty,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/20-odrzavanje-nerazvrstanih-cesta-medimurska-zupanija.pdf(accessed July 20 2014)

Report on the conducted performance audit of maintenance of unclassified roads in local self-government units in the City of Zagreb,http://www.revizija.hr/izvjesca/2013-rr-2013/posebne-revizije/03-odrzavanja-nerazvrstanih-cesta/21-odrzavanje-nerazvrstanih-cesta-grad-zagreb.pdf(accessed July 20 2014)

Ladavac, J., (2000): ***Analiza razvijenosti cestovne mreže u Republici Hrvatskoj: pregled po županijama***, Ekonomski pregled, Vol. 51, No. 3-4, pp. 359-374,https://hrcak.srce.hr/file/98023(accessed 10 July 2014)

Ivana Mamić Sačer, PhD
Faculty of Economics and Business, University of Zagreb
Zagreb, Croatia
E-mail address: imamic@efzg.hr

Nikolina Dečman, PhD
Faculty of Economics and Business, University of Zagreb
Zagreb, Croatia
E-mail address: ndecman@efzg.hr

Ana Rep, MA
Faculty of Economics and Business, University of Zagreb
Zagreb, Croatia
E-mail address: arep@efzg.hr

PRACTICAL PROBLEMS IN UNDERSTANDING ACCOUNTING TERMINOLOGY USED IN THE PREPARATION OF GENERAL PURPOSE FINANCIAL STATEMENTS – EVIDENCE FROM CROATIA

PRAKTIČNI PROBLEMI U RAZUMIJEVANJU RAČUNOVODSTVENE TERMINOLOGIJE KORIŠTENE PRI IZRADI FINANCIJSKIH IZVJEŠTAJA OPĆE NAMJENE – NA PRIMJERU HRVATSKE

ABSTRACT

Financial statements are a main product of accounting with the wide range of users interested in the evaluation of financial position and business performance of a company. Owners, management, employees, present and potential investors, lenders and other creditors, as well as other users, seek certain accounting information. While preparing the statements, accountants apply specific financial reporting standards. Not only accountants are responsible for the accounting information presented in the financial statements, but also there are management and supervisory bodies who are collectively responsible for such information too. The fact is that the professional knowledge of management and supervisory bodies' members, and other users of accounting information is not always related to the accounting field and that could cause some problems in understanding. Furthermore, principal financial statements are general purpose financial statements. Understandability as a qualitative characteristic of accounting information, according to the IFRS Framework, presumes that financial statements are prepared for the users with a reasonable knowledge of business and economic activities and who review and analyse the information diligently. Still, sometimes for the primary users of the statements it is very hard to interpret some accounting information properly. The accounting practice has shown that this problem can result in misunderstanding, wrong interpretation and consequently in making wrong business decisions. This was an incentive for the research of main problems in understanding accounting terminology used in the disclosed financial statements. The research methodology includes the preparation and processing the corpus of accounting language used in the financial statements. The content of the balance sheet, income statement, the statement of changes in equity, cash flow statement and the notes to the financial statementsform the corpus for the investigation.In order to address this issue,a survey was conducted on a sample of Croatian companies, whereby the target population comprised small and medium-sized enterprises (SMEs) whose primary activity is production and trade. Respondents were primary owners and managers,i.e. persons belonging to the management *structure of the company.The goals of the research are to investigate whether the owners and managers of small and medium-sized enterprises in Croatia know and to what extent they understand the accounting terms from the principal financial statements. The results of the research provide a good insight into the existing knowledge and understanding of the accounting terminology used in the general purpose financial statements andindicatethat there is a need for additional education of the company's management structures.*

Keywords: *accounting terminology, accounting information, financial statements, Croatia.*

SAŽETAK

Financijski izvještaji su glavni proizvod računovodstvene obrade podataka koje koriste brojni korisnici zainteresirani za mjerenje financijskog položaja i uspješnosti poslovanja poduzeća. Vlasnici, menadžeri, zaposlenici, sadašnji i potencijalni investitori, zajmodavci i ostali kreditori, kao i ostali korisnici, zahtijevaju određene računovodstvene informacije. Prilikom pripreme izvještaja računovođe koriste specifične standarde financijskog izvještavanja. Nisu samo računovođe odgovorni za računovodstvene informacije prezentirane u financijskim izvještajima, nego i menadžeri te osobe na rukovodećim pozicijama koji zajednički snose odgovornost za te informacije. Činjenica je kako profesionalno znanje menadžera i osoba na rukovodećim pozicijama, kao i ostalih korisnika računovodstvenih informacija nije uvijek vezano uz računovodstveno područje što može utjecati na probleme u razumijevanju. Pored toga, temeljni financijski izvještaji su financijski izvještaji opće namjene. Razumijevanje kvalitativnih odrednica računovodstvenih informacija, prema Okviru MSFI-a (engl. the IFRS Framework), pretpostavlja da su financijski izvještaji pripremljeni za korisnike s umjereno prihvatljivom razinom znanja iz područja poslovanja i ekonomskih aktivnosti koji s pažnjom pregledavaju i analiziraju informacije. Međutim, za primarne korisnike izvještaja ponekad je vrlo teško ispravno interpretirati pojedine računovodstvene informacije. Računovodstvena praksa pokazuje kako taj problem može rezultirati nerazumijevanjem, pogrešnom interpretacijom i zbog toga donošenjem pogrešnih poslovnih odluka. Sve to je bio poticaj za provedbu istraživanja o glavnim problemima u razumijevanju računovodstvene terminologije korištene u objavljenim financijskim izvještajima. Metodologija istraživanja uključuje izradu i obradu računovodstvenog jezika korištenog u financijskim izvještajima. Razumijevanje sadržajabilance, računa dobiti i gubitka, izvještaja o promjenama kapitala, izvještaja o novčanim tokovima i bilješkama uz financijske izvještaje predstavlja korpus ovog istraživanja. S ciljem pozicioniranja problema, provedeno je istraživanje putem anketena uzorku hrvatskih poduzeća u kojem je ciljana populacija uključivala mala i srednja poduzeća čije su primarne djelatnosti proizvodnja i trgovina. Primarni ispitanici su bili vlasnici i menadžeri, npr. osobe koje pripadaju menadžerskoj razini poduzeća. Ciljevi istraživanja su bili utvrditi jesu li i u kojoj mjeri vlasnici i menadžeri malih i srednjih poduzeća u Hrvatskoj upoznati s računovodstvenim terminima korištenima u temeljnim financijskim izvještajima. Rezultati istraživanja pružaju uvid u znanje i razumijevanje računovodstvene terminologije korištene u financijskim izvještajima opće namjene od strane vlasnika i menadžera te upućuju na potrebu za dodatnom edukacijom osoba na menadžerskim pozicijama.

Ključne riječi: *računovodstvena terminologija, računovodstvene informacije, financijski izvještaji, Hrvatska.*

1. Introduction

The obligation of each company is to keepaccounting records, prepare and present financial statements at least once a year. Financial statements are a main product of accounting. Many users need the information contained in the financial statements for making business decisions. Internal users, in the first place management, are interested in information about their current financial position and business performance of a company. On the other hand, present and potential investors, lenders and other creditors, as well as other users, seek certain accounting information in deciding whether to invest in the company or not. While preparing the statements, accountants apply specific financial reporting standards. Not only accountants are responsible for the accounting information presented in the financial statements, but also there are management and supervisory bodies who are collectively responsible for such information too. The fact is that the professional knowledge of management and supervisory bodies' members, and other users of accounting information is not always related to the accounting field and that could cause some problems in understanding.This problem of misunderstanding accounting terminology is particularly pronounced in smaller businesses. This is where owners manage the enterprise and often find accounting burdensome rather than a useful tool for making business decisions. The analysis of previous research points the fact that very few owners of small and medium-sized enterprises understand the content of financial statements while most of them rely on information provided by the accounting service (Collis and Jarvis, 2000, 45; Dečman, 2013b, 13).Since owners in small and medium-sized enterprises(SMEs) are responsible for the financial statements the question arises whether to work on clarification of accounting terminology in order to avoid misinterpretation of accounting information.This was an incentive for the research of main problems in understanding accounting terminology used in the disclosed financial statements for Croatian SMEs.In order to find out whether the owners and other managerial structures understand accounting terminology contained in the principal financial statements, an empirical research was conducted. The key respondents were the owners and/or managers of the small and medium- sized enterprises in Croatia.

2. General purpose financial statements and different information needs of their users

Principal financial statements are general purpose financial statements. Understandability as a qualitative characteristic of accounting information, according to the IFRS Framework, presumes that financial statements are prepared for the users with a reasonable knowledge of business and economic activities and that such users review and analyse the information diligently. Preinreich (1933) claims whereas the terminology of law or medicine is intended to serve primarily, if not exclusively, the members of those learned professions, the accountants' language must be understood by everybody who has occasion to refer to financial statements (Preinreich, 1933, 113). Still, sometimes for the primary users of the statements it is very hard to interpret some accounting information properly. The accounting practice has shown that this problem can result in misunderstanding, wrong interpretation and consequently in making wrong business decisions (Cernius, 2011, 15).

Financial statements contain relevant information which can be very helpful todifferent users when they evaluate the financial position and performance of a company (Žager et al., 2017, 92). Each financial statement contains specific information and for their proper understanding it is necessary to know accounting terminology because some seemingly similar categories (cost and expense, expense and cash inflow, revenue and cash inflow, and others) have quite a different meaning.Balance sheet shows the current financial position of the company i.e. the balance of assets, liabilities and equity on a specific date. Based on the balance sheet, users can assess the company's liquidity, indebtedness and financial stability. On the other hand, the income statement shows the performance (efficiency) of the business over the period. Changes in the financial position of cash flows and cash equivalents are presented in the cash flow statement. Information on cash inflows and outflows is important when assessing the company's liquidity. The statement of changes in equity contains information on changes in earned and invested capital over a specified period and provides users with analytically elaborated information on equity movements. Notes are a particularly important financial statement, as the information contained within them may be crucial in evaluating current as well as predicting future performance indicators. Notes supplement the positions of the other four general purpose financial statements and their content is often not prescribed. Therefore, it can be said that the financial statements are the basis for analysing the current state, changes and tendencies of business operations in the future.Different users need different information contained in the financial statements. Thus, lenders and creditors will primarily be interested in liquidity while investors will pay more attention to the company's profitability and return on invested capital. On the other hand, the government is primarily interested in determining the taxable amount of profit. Regardless of the variety of information needed, all of them require reliable and comparable data contained in the general purpose financial statements.

The practice shows that the accounting information recorded in the financial statements is not used properly for management purposes, especially in smaller enterprises (Collis and Jarvis, 2000, 16; Dečman, 2013a, 330).In addition to the fact that financial reporting is considered to be an administrative burden as well as the fact that smaller companies when compiling financial statements rely more on tax regulations than the provisions of accounting standards (Fekete, et al., 2010, 34; Cernius, 2011, 15;Dečman, 2013a, 331) one of the most important reasons for insufficient use of accounting information may be the consequence of the misunderstanding of the fundamental accounting terms contained in the financial statements. Below are the results of conducted empirical research on the knowing and understanding accounting terminologycarried out on a sample of owners and managers of Croatian small and medium-sized enterprises in the selected industry types.

3. Empirical research of main problems in understanding accounting terminology used in the preparation of financial statements

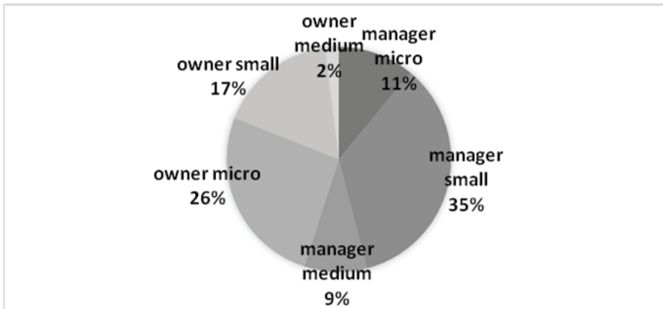
3.1. Research methods and the formation of research sample

In order to determine is there a problem in understanding and using accounting terminology among the users of financial statements, an empirical research in the form of survey has been conducted. The target population of the research were Croatian companies belonging to the small and medium-sized enterprises (SME's) whose primary activity is production and trade, i.e. according to the National Classification of Activities in 2007: C - processing industry, G - retail and wholesale. Given the number of small and medium-sized enterprises in these activities (about 40 thousand entrepreneurs), the research sample has been narrowed to the following criteria: (1) micro enterprises (number of employees 1-10, total revenues between 2,000,000 and 5,250,000 HRK); (2) small enterprises (number of employees 11-50, total revenues between 10,000,000 and 65,000,000 HRK); (3) medium-sized enterprises (number of employees 51-250, total revenue between 100,000,000 and 260,000,000 HRK).Although the Accounting Act prescribes also and the value of total assets as the third criteria, we focused our study on the two abovementioned criteria. Finally, the research sample included 2,554 enterprises whose email addresses were used for questionnaire distribution. The primary group of respondents were owners and managers, i.e. persons belonging to the management structure of the company. The survey was conducted in the period from March 2nd till March 16th 2018.In that period, a hundred respondents fully completed the survey what makes a return rate of 3.92 %. Using the methods of descriptive statistic and Chi-square test, the research results were analysed and interpreted, and the conclusions were made.

3.2. Analysis of research results

The survey was divided into two parts; the first part included general questions about the respondents and their company, while the second part referred to the questions about the accounting terminology understanding and usage. Chart 1 presents the structure of respondentsaccording to their function and company size. 55 % of the respondents were managers while the remaining 45 % were the owners of anenterprise. 37 % of all respondents belongs to the micro enterprises, 52 % to small enterprises, and 11 % are medium sized enterprises. The largest group of respondents were managers of small enterprises (35 %).

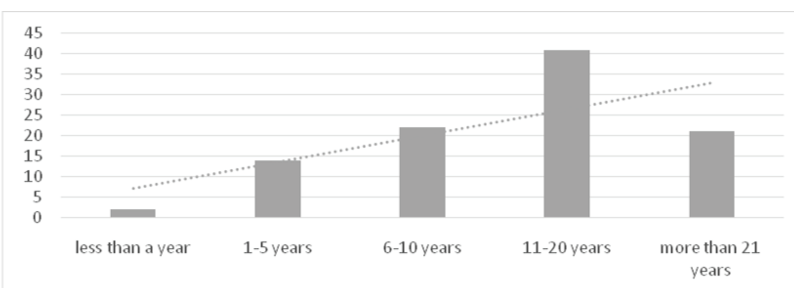
***Chart 1** The respondents' structure according to their function and company size*



Source: created by the authors

Chart 2 shows the structure of the respondents according to the years of experience at the current position. The largest proportion of the respondents has 11 to 20 years of experience at the current position. The proportion of the respondents with 6 to 10 years or more than 21 years of experience at the current position is almost equal, while there were only 2 respondents who have less than a year of experience at the current position.

***Chart 2** The respondents' structure according to years of experience at the current position*



Source: created by the authors

Through the five-level Likert scale,the respondents were supposed to mark how much they agree with a given statement. In order to check their understanding of a general accounting terminology, simple statements were set up. The statements and collected responsesof all respondents arepresented in Table 1. All given statements are not accurate so the answer "Strongly disagree" in the onlycorrectanswer, while the answers "Mostly disagree", "Neither agree nor disagree", "Mostly agree", and "Strongly agree" can be considered incorrect. Accordingly, 64 % of the respondents gave the correct answers, while 36 % of the respondents gave incorrect answers.

__Table 1__ Understanding the fundamental accounting terms

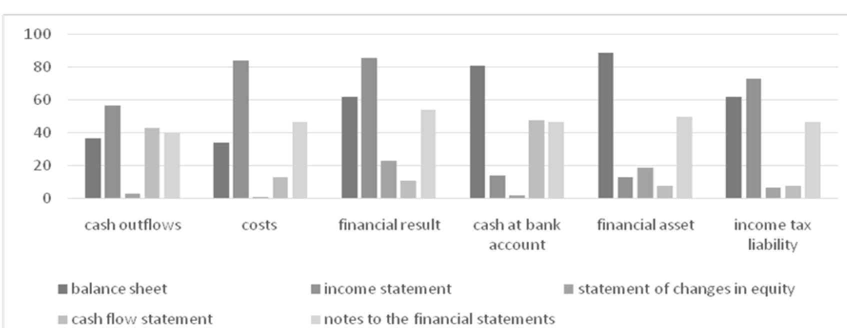
	Completely disagree	Mostly disagree	Neither agree nor disagree	Mostly agree	Completely agree	Grand Total
The amount of profit in income statement is equal to the amount of cash in balance sheet.	86%	7%	6%	0%	1%	100%
Equity and assets are synonyms.	63%	12%	12%	8%	5%	100%
The profit for the period and the gains are synonyms as well as the loss for the period and the losses are synonyms.	55%	10%	22%	7%	6%	100%
A company that operates at a loss necessarily realizes a negative net cash flow.	52%	20%	14%	6%	8%	100%
Total (analytical)	64%	12%	14%	5%	5%	100%
Total (synthesized)	64%		36%			100%

Source: created by the authors

Only 37 out of 100 respondents gave all correct answers. 16 of them are managers, while the others are the owners of an enterprise. Only 2 of them has 1 to 5 years of experience at the current position and they are the owners, 10 have 6 to 10 years of experience, 17 have 11 to 20 years of experience, while 8 have more than 21 years of experience at the current position. On the other hand, it is concerning that 12 % of all respondents gave all incorrect answers to the fundamental accounting statements. 7 of them have more than 11 years of experience at the current position. These people are team leaders, they make business decisions and have responsibility for the accuracy of the data specified in the general purpose financial statements.

In order to check if the respondents are familiar with the financial statements positions, they were asked to match the financial statements' positions with one or more financial statements in which the certain position should be presented. Chart 3 shows the affiliation of individual financial statements' positions to the financial statements according to the responses received from one hundred respondents. It is clearly seen that the respondents are not fully familiar with the financial statements' positions since 57 of them responded that cash outflows are the part of anincome statement and34 said that costs incurred are balance sheet position. Furthermore, 73 of them considered that income tax liability is presented in an income statement. That means that they do not recognize the difference between an income tax as a specific item calculated and presented in income statement, and the income tax liability presented in the balance sheet. The income tax liability in balance sheet refers to all not paid liabilities for income tax, whether related to the taxes fromprevious periods or as an advance for current period.

__Chart 3__The respondents' knowledge of financial statements' positions



Source: created by the authors

It is worryingly that there was no respondent who had all correct answers.Table 2 shows the correct answers by each financial statements' position. According to the given responses, it is obvious that most of the respondents had problems with positions of cash outflows, financial result and income tax liability. Based on the analysed responses, it can be concluded that the respondents have difficulty in understanding seemingly similar but actually completely different terms such as costs, expenses,liabilities, and cash outflows. In addition to the above,the respondents are usually not aware that the achieved financial result is a part of all principal financial statements.

Table 2 *The correct responses of financial statements' positions*

	cash outflows	costs	financial result	cash at bank account	financial asset	income tax liability
correct answers	5	29	3	26	35	5

Source: created by the authors

In order to test is there a significant difference between the knowledge of the respondents who have more than 10 years of experience at the current position and those who have up to 10 years of experience at the current position, the Chi-Square test of independence of two variables has been carried out. The hypotheses were set up as follows:

> *Null Hypothesis: The respondents' experience at the current position does not affect their knowledge and understanding of accounting terminology.*
>
> *Alternative Hypothesis: The respondents' experience at the current position affects their knowledge and understanding of accounting terminology.*

Aftersummarizing the data on respondents'correct responses depending on the years of experience at the current position, the average number of correct answers of those who have up to 10 years of experience at the current position is 23 %, while there is 39 % of those who have more than 10 years of experience at the current position.Since there cannot be values less than five when using a Chi-Square test, the correct responses related to the cash outflows, cost incurred, financial result, and income tax liability were merged. In order to meet that constraint, a table of empirical values was constructed (Table 3).

Table 3 *Empirical (observed) values (O)*

	up to 10 years at the current position	more than 10 years at the current position	Total
The amount of profit in the income statement is equal to the amount of cash in the balance sheet.	33	53	86
Equity and assets are synonyms.	23	40	63
The profit for the period and the gains are synonymous as well as the loss of the period and the losses are synonymous.	17	38	55
A company that operates at a loss necessarily realizes a negative net cash flow.	19	34	53
cash outflows, costs, financial result, income tax liability	11	31	42
cash at bank account	8	18	26
financial asset	10	25	35
Total	121	239	360

Source: calculated by the authors

The empirical value of Chi-square was calculated by using the formula:

$$\chi^2 = \frac{\Sigma(O - E)^2}{E},$$

where O represents the observed frequency and E is the expected frequency under the null hypothesis computed by:

$$E = \frac{row\ total\ x\ column\ total}{sample\ size}.$$

The theoretical values are presented in Table 4.

Table 4 *Theoretical (expected) values (E)*

	up to 10 years at the current position	more than 10 years at the current position	Total
The amount of profit in the income statement is equal to the amount of cash in the balance sheet.	28.90556	57.09444	86
Equity and assets are synonyms.	21.175	41.825	63
The profit for the period and the gains are synonymous as well as the loss of the period and the losses are synonymous.	18.48611	36.51389	55
A company which operates at a loss necessarily realizes a negative net cash flow.	17.81389	35.18611	53
cash outflows, costs, financial result, income tax liability	14.11667	27.88333	42
cash at bank account	8.738889	17.26111	26
financial asset	11.76389	23.23611	35
Total	121	239	360

Source: calculated by the authors

The empirical value of Chi-square equals 2.94 (Table 5).

Table 5 *The Chi-square calculation*

Significance	Degrees of freedom	Critical value	Chi-square	p-Value
0.05	6	12.59159	2.938381	0.81654

Source: calculated by the authors

Since the critical value of Chi-square with 6 degrees of freedom is 12.59, the null hypothesis cannot be rejected and it can be concluded that the respondents' experience at the current position does not affect their knowledge and understanding of accounting terminology at a 5 % level of significance. This result doesn't surprise, because the knowledge achieved through the education process could have more significant impact and there is general opinion that managers in SMEs usually rely on the accountants' advices when making decisions on financial statements. However, these statements can be input for some future research.

4. Conclusion

Principal financial statements are general purpose financial statements. There are many users of financial statements. Beside accountants, investors, creditors, owners and managers as well as all other interested parties use the information presented in general purpose financial statements. Based on that fact, it is necessary that all of them have at least the fundamental accounting knowledge. In order to seek the terms in financial statements that could be interpreted wrongly by the financial statements' users, an empirical research has been conducted on the sample of Croatian small and medium-sized enterprises (SMEs) belonging to the activities of production and trade. According to the research results, it can be concluded that the owners and managers of those companies, who were the target respondents, are notquite familiar with the general accounting terminology used in the general purpose financial statements. Besides, the main problem in understanding accounting terms is that the users do not notice the difference between the fundamental terms such as costs, expenses, liabilities, and cash outflows. The research results have shown that the respondents with more than 10 years of experience at the current position better understand the accounting terminology used in the preparation of financial statements compared to those who have up to 10 years of experience, but the difference is not statistically significant. On the other side, it would be interested to test if there is a difference in understanding accounting terminology based on the education level reached. To conclude, understanding accounting terminology used in the preparation of financial statements is the foundation for making business decisions and there is a need for further education of those who are interested in business, either in business decision making or in investing.

ACKNOWLEDGEMENT

This work has been fully supported by Croatian Science Foundation under the project number 1794 entitled "Construction of Croatian Accounting Terminology".

REFERENCES

Cernius, G. (2011):***Confusion of accounting terminology in Lithuania***, European Journal of Business and Economics, Vol. 3, pp. 12-16, http://ojs.journals.cz/index.php/EJBE/article/view/110/115 (accessed 26 March 2018)

Collis, J., Jarvis, R. (2000): ***How owner-managers use accounts***. The Institute of Chartered Accountants in England & Wales, https://www.icaew.com/-/media/corporate/files/technical/research-and-academics/publications-and-projects/financial-reporting-publications/how-owner-managers-use-accounts.ashx, (accessed 26 March 2018)

Dečman, N. (2013a): ***Računovodstvene informacije u funkciji upravljanja malim i srednjim poduzećima,*** doktorska disertacija, Ekonomski fakultet, Zagreb.

Dečman, N. (2013b): ***Uloga računovodstvene profesije u osiguranju informacijske podloge za poslovno odlučivanje u malim i srednjim poduzećima Republike Hrvatske,*** Zbornik Ekonomskog fakulteta u Zagrebu, Vol. 11, No. 2, pp. 1-14.

Fekete, S. et al. (2010): ***Explaining Accounting Policy Choices of SME's: An Empirical Research on the Evaluation Methods***, European Research Studies, Vol. XIII, No.1, pp. 33-48.

Preinreich, G. A. D. (1933): ***Accounting Terminology***, The Accounting Review, Vol. 8, No. 2, pp. 113-116.

Žager, K. et al. (2017): ***Analiza financijskih izvještaja, načela - postupci - slučajevi.*** Zagreb: Hrvatska zajednica računovođa i financijskih djelatnika.

Vinko Muštra, PhD, Assistant Professor
University of Split, Faculty of Economics, Business and Tourism
Cvite Fiskovića 5, 21000 Split
Phone: 0038521430771 Fax: 0038521430701
E-mail address: vmustra@efst.hr

Josip Visković, PhD, Assistant Professor
University of Split, Faculty of Economics, Business and Tourism
Cvite Fiskovića 5, 21000 Split
Phone: 0038521430751 Fax: 0038521430701
E-mail address: josip.viskovic@efst.hr

Paško Burnać, PhD
University of Split, Faculty of Economics, Business and Tourism
Cvite Fiskovića 5, 21000 Split
Phone: 0038521430759 Fax: 0038521430701
E-mail address: pburnac@efst.hr

CENTRAL OR SUB-CENTRAL FISCAL CONSOLIDATION: WHAT IS IMPORTANT FOR REGIONAL INEQUALITIES?

SREDIŠNJA I/ILI SUB-SREDIŠNJA FISKLAN KONSOLIDACIJA: ŠTO JE KLJUČNO ZA REGIONALNE NEJEDNAKOSTI?

ABSTRACT

Although there are relatively large number of papers investigating the impact of fiscal consolidation on different aspect of economy (e.g. Castro, 2007, 2011, Heim, 2010a, 2010b, Agnello et al, 2016) this paper represent unique attempt of investigating the effects of fiscal consolidation implemented on central and sub-central level on regional inequalities. Therefore, the aim of the paper is to test the hypothesis that implementation of fiscal consolidation on central level has different effects on regional inequalities, then implementation on sub-central level. Therefore, we explore the impact of fiscal consolidation on central and sub-central level on regional inequalities among EU member countries for period 1995-2009. Two groups of variables are particularly important for this study: measure of fiscal consolidation and difference between central and sub-central component of the fiscal consolidation. Due to fact that recent literature recognizes problems with using cyclically-adjusted primary budget balance (CAPB) as a measure for fiscal consolidation we extend regional empirical literature by using a new database of fiscal consolidation, introduced by Devries et al. (2011), that successfully tackles all this issues. For measuring the central and sub-central component of the fiscal consolidation we use the share of the central and sub-central spending and revenues in total public spending and revenues for the years when the fiscal consolidation has been realized. The results indicate that the structure of fiscal consolidation (led by implementation on national or sub-national level) differently influences regional inequalities. Finally, the paper highlights that fiscal consolidation is not only the matter of the public debt levels or economic growth, but also important regional issue.

Keywords: *regional inequalities, sub-central fiscal consolidation, central fiscal consolidation, European Union.*

SAŽETAK

Iako postoji relativno velik broj radova koji istražuju utjecaj fiskalne konsolidacije na različite aspekte gospodarstva (npr. Castro, 2007, 2011, Heim, 2010a, 2010b, Agnello i dr., 2016) ovaj rad predstavlja jedinstveni pokušaj istraživanja utjecaja fiskalne konsolidacije provedene na središnjoj i sub-središnjoj na regionalne nejednakosti. Shodno tome, cilj rada je testirati hipotezu da provedba fiskalne konsolidacije na središnjoj razini ima različite učinke na regionalne nejednakosti, nego implementacija iste na sub-središnjoj razini. Stoga se u radu istražuje utjecaj fiskalne konsolidacije, na središnjoj i sub-središnjoj razini, na regionalne nejednakosti među zemljama članicama EU za razdoblje 1995-2009. Za ovu studiju posebno su važne dvije skupine varijabli: mjera fiskalne konsolidacije i razlike između središnje i sub-središnje komponente fiskalne konsolidacije. S obzirom na činjenicu da recentna literatura prepoznaje probleme s korištenjem ciklično prilagođenog primarnog proračunskog salda, kao mjere za fiskalnu konsolidaciju, ovaj rad proširuje regionalnu empirijsku literaturu korištenjem nove baze fiskalne konsolidacije koju su uveli Devries et al. (2011), a koja uspješno rješava problematična pitanja. Za mjerenje središnje i sub-središnje komponente fiskalne konsolidacije u radu se koristi udio središnje i sub-središnje potrošnje i prihoda u ukupnoj javnoj potrošnji i prihodima za godine kada je fiskalna konsolidacija provedena. Rezultati ukazuju na to da struktura fiskalne konsolidacije (provedba fiskalne konsolidacije na središnjoj odnosno sub-središnjoj razini) ima različit utjecaj na regionalne nejednakosti. Konačno, u radu se ističe da fiskalna konsolidacija nije samo pitanje razine javnog duga ili gospodarskog rasta, već je i važan regionalni problem.

Ključne riječi: *regionalne nejednakosti, sub-središnja fiskalna konsolidaciju, središnja fiskalna konsolidacija, Europska unija.*

1. Introduction

The economic and financial crisis has turned into a fiscal crisis affecting both central and sub-central governments in many EU countries. While government revenues declined, spending rose as a consequence of both automatic stabilisers and stimulus programmes. Although most sub-central governments are less severely affected than central governments, deficits and debt rose in most countries on sub-central level, often going beyond what is permitted by fiscal rules (Blöchliger, 2013, 5). Consolidating the public finances has become a priority for many countries, and the sub-central level will have to participate in this effort. With the end of different stimulus programmes that often granted support to the sub-central level, pressure on sub-central budgets will increase even further. Although sub-central fiscal positions improved considerably since 2009, deficit and debt reduction will play a crucial role in the policy agenda of many sub-central governments in the coming years.

This issue is particularly important from the perspective of regional inequalities. The causes of income and regional inequality have been attracting considerable attention from economists for years. Many determinants can help explain observed trends in income inequality: globalization and integration of the world-economy, skill-based technological change, increasing employment in the tertiary sector, institutions and regulatory changes in product and labour markets, changes in the tax law etc (Buyse, 2015, 2). As Agnello et al. (2016, 60) pointed out, income inequality also tends to show a degree of spatial clustering, which translates into regional inequality. Moreover, fiscal policies (and fiscal consolidations) can affect regional inequality in several ways. For example, European countries rely on central government intervention (such as interregional fiscal transfers) in order to pursue internal spatial stabilisation and redistributive policies, which can be considered as part of the national system of social security. This implies a potential impact of fiscal consolidations on regional inequality. Recognition and differentiation of various channels of influence is, however, very difficult. Fiscal policy is also known to be one of the determinants. Namely, Bartolini et al. (2016, 3) investigate the relationship between fiscal decentralisation and regional inequality within countries and on the sample of 30 OECD countries for the period 1995-2011. Their results show that a balanced fiscal structure, where local spending is mainly financed by local taxation, reduces regional disparities. Nevertheless, most studies in this context focus on how changes in certain categories of taxes or expenditures influence income inequality (Afonso et al., 2010, 369). Still, with exception of the papers by Agnello et al. (2016) and Mustra (2017, 135) investigating the effects of fiscal consolidation on regional inequalities have stayed unexplored. Therefore, the idea of this paper is to shed light on the impact of fiscal consolidation measures on central and sub-central level on regional inequalities among EU member countries for period 1995-2009. Moreover, our aim is to combine the literature on fiscal consolidation with that on fiscal decentralization.

The rest of the paper is organized as follows. Next section presents the literature review on determinants of fiscal consolidation and it's relation to regional inequalities. Third section explains methodology and data sampling, whereas fourth section discusses empirical results. Finally, last section concludes and provides recommendations for future research.

2. Literature review

The existing literature covers various determinants that affect fiscal consolidation, from economic (public finances, business cycle) to political factors (consolidation intensity, political consequences). Empirical studies mainly focus on OECD countries and the interest on this topic has been revived by the economic and financial crisis calling for fiscal adjustments in most industrialized countries. This review provides an insight into the most relevant aspects of fiscal consolidation.

Alesina and Ardagna (1998, 583) investigating periods of fiscal consolidation for all OECD countries in the period 1960-1994 come to the conclusion that spending cuts are much more efficient for economic growth than tax increases. Their results show that there are more periods in which government spending cuts are followed by economic expansion than with recession. The same authors come up with similar results on a sample that covers an extended period of time (Alesina and Ardagna, 2012, 17). Similarly, Maroto and Mulas Granados (2007, 25) also show that fiscal consolidations based on the expenditure side of the budget are more efficient than those relying on the revenue side. Moreover, consolidation based on the revenue side of the budget can be successful if the initial share of tax revenues in GDP is relatively low. Reducing expenditures is most often associated with reforms that increase the efficiency of public service, while tax increases are perceived as the absence of structural reforms (Kumar et al., 2007, 30). Still, there are researches that find evidence that fiscal consolidation is followed by the contraction of economic activity (Guajardo et al., 2011, 29). The decrease in consumption and investment in the private sector was followed by a slight increase in exports due to the decline in domestic currency values. The International Monetary Fund also emphasizes that the consolidation is accompanied by negative rates of economic growth in the short term and possible expansion in the long run (IMF, 2010, 94). Regarding the post-transition countries, Ghosh and others (2009, 2) point out that there is not much evidence supporting the argument that fiscal consolidation leads to recovery in times of crisis.

When it comes to initial economic conditions for consolidation, the results of the research are also different. While one group of authors argue that fiscal adjustments are more successful if they take place during or immediately after the recession period (Guajardo et al., 2011, 3), others consider that the right time to consolidate is expansion (Alesina and Ardagna, 2012, 4). Besides, timing, fiscal consolidation is closely related to the strength of a fiscal multiplier as well. Kabashi (2017, 60) on a sample of post-transition countries states that expansive fiscal shocks have a positive but relatively low impact on output. The author estimates the strength of a fiscal multiplier at 1.2, in the year of shock and in the next year, while in the other period the multipliers are lower. The effects of fiscal policy depend heavily on the country's structural characteristics: fiscal multipliers are higher in countries with low public debt and lower trade openness. The results of the analysis also point to increased multipliers in the period of crisis in relation to the pre-crisis period.

However, there is an important lack of studies dealing with the impact of fiscal consolidation on central and sub-central level, especially with its effect on regional inequalities. The recent crisis and the present consolidation have reduced the financial room for manoeuvre on sub-central level. After carrying out stimulus programmes and supporting sub-central governments during the initial stages of the crisis, most central governments have now switched to financial consolidation strategies. Vammalle and Hulbert (2013, 5) pointed out that these consolidation constraints may reduce public investment, create negative effects on local labour markets and thus ultimately threaten local growth. Accordingly, Thornton and Adedeji (2010, 1047) find that sub-national governments in emerging economies have contributed in the past to successful general government fiscal adjustments by cutting their capital expenditures and raising their own tax revenues. Moreover, abovementioned consolidation can also increase inequalities in local public service access and lower the quality of services. As a consequence, while successful national consolidation strategies will usually have to involve sub-central level, they also need to take into account their financial situation to preserve their capacity to deliver important public services. Finally, if the more developed regions can shape fiscal policy at national level to protect themselves, this may result in lower levels of help for less developed regions and changes of tax system that will not compensate the unfavourable position of less developed areas. Namely, Foremny et al. (2017, 360) have investigated the impact of fiscal decentralization on the duration of consolidation episodes occurred in 17 OECD countries between 1978 and 2009. Their findings shows that that duration is longer in more decentralized countries, but only if sub-national governments have little real autonomy over their budgets. They also found that transfers from the central government are reduced during consolidation periods, and this effect is more pronounced if sub-national authorities have little legal power to affect the central government's decisions.

The above review points towards a lack of consensus concerning the impact of fiscal consolidation on central and sub-central level, allowing for both positive and negative effects on economic activity, and with no significant research of effects on regional inequalities. Without an ambition of resolving this conflict of theoretical points of views and the related empirical findings, the present paper attempts to add a modest contribution to the debate through an empirical investigation of the effects of fiscal consolidation on the variables that appear to be under investigated.

3. Methodology and data sample

Before explaining the methodology, we will first describe the data set. Data has been collected for NUTS II regions of 13 EU member countries from Eurostat database, Cambridge Econometrics' European Regional Database, World Development indicators and from new dataset of fiscal consolidation constructed by Devries et al. (2011) for period 1995 -2009.

Since the aim of the paper is to investigate the effects of fiscal consolidation implemented on central and sub-central level on regional inequalities, two variables are of particular importance for study: fiscal consolidation (on central and sub-central level) and regional inequalities. In the process of choosing proxies for these variables the papers by Devries et al. (2011) and Agnello et al (2016, 5-8) have been considered.

By taking into consideration the definition by Devries et al. (2011, 3) that defines fiscal consolidation as a policymakers' intentions to reduce the budget deficit and not by a response to prospective economic conditions, cyclically-adjusted primary budget balance (CAPB) concept as often used concept in the literature for measuring the fiscal consolidation can be problematic as it has been explained in details in papers such as: Devries et al. (2011), Agnello and Sousa (2012), Darby and Melitz, (2008) and Jaeger and Schuknecht (2007).

Therefore, for measuring fiscal consolidation (on central level) we implement approach introduced by Devries et al. (2011, 3). The authors construct narrative approach that identifies episodes of fiscal consolidation based on policy actions motivated by deficit reduction and not looking at fiscal outcomes. Hence, the data has been constructed by examining accounts and records of what countries were intending to do at the time of publications by recording the budgetary effect of the fiscal consolidation measures in the year in which they come into effect (the concept of government corresponds to the general government and budgetary impact has been scaled in the percent of GDP, Devries et al. 2011, 3). Finally, as an indicator of fiscal consolidation on sub-central level we use the change of the public expenditure (revenue) on sub-central level (state + local level) as a share of the GDP or total public expenditure (revenue) only for years when fiscal consolidation has been implemented and indicated in dataset by Devries et al. (2011).

For measuring second vital variable, regional inequalities, we use concept often used in the literature: GINI index. The index is represented by equation (1):

$$\sigma_{it} = \frac{2}{n^2\overline{y}} \sum_{j=1}^{n} j\,(y_{jt} - \overline{y}_t) \qquad (1)$$

where i represents country, $y_{i,t}$ is GDP per capita of region j, $\overline{y}_t$ denotes the country's average GDP per capita in year t and n is the number of the NUTS II regions.

The assumption that regional inequality is influenced only by the fiscal consolidation on central and/or sub-central level is rather restrictive and results could potentially suffer from the omission of other (possibly) significant determinants. Hence, this paper analyses whether the relationship between regional inequality and fiscal consolidation holds when additional explanatory variables are included in the model. Therefore, in process of choosing control variables we follow paper by Agnello et al (2016) and introduce the following variables: unemployment level**,** inflation rate, political economic factors, and trade openness. Finally, to test our hypothesis we formed two models represented by equation 2 and 3 by which we will test the importance of fiscal consolidation on governmental i.e. sub-governmental level:

$$RI_{i,t} = \alpha_i + \beta_1 RI_{i,t-1} + \beta_2 RI_{i,t-2} + \beta_3 FC_{i,t} + \beta_4 UNEMP_{i,t} + \beta_5 INF_{i,t} + \beta_6 TO_{i,t} + \beta_7 DEC_{i,t-1} + \beta_8 DPI_{i,t} + \varepsilon_{i,t} \qquad (2)$$

$$RI_{i,t} = \alpha_i + \beta_1 RI_{i,t-1} + \beta_2 RI_{i,t-2} + \beta_3 FCSUB_{i,t} + \beta_4 UNEMP_{i,t} + \beta_5 INF_{i,t} + \beta_6 TO_{i,t} + \beta_7 DEC_{i,t-1} + \beta_8 DPI_{i,t} + \varepsilon_{i,t} \quad (3)$$

where $RI_{i,t}$ represents the level of within-country regional inequality in country *i* in year *t,* measured by Gini index (NUTS II level), $FC_{i,t}$ stands for the proxy that should capture the fiscal consolidation by examining accounts and records of what countries were intending to do at the time of publications and by recording the budgetary effect of the fiscal consolidation measures in the year in which they come into effect for country *i* in year *t*, $UNEMP_{i,t}$ denotes unemployment rate (% of total labour force, modelled ILO estimate) for country *i* in year *t*, $INF_{i,t}$ denotes inflation rate (consumer prices, annual, %) for country *i* in year *t*, $TO_{i,t}$ represents trade (% of GDP) for country i in year t, $DEC_{i,t}$ stands for the proxy that should capture fiscal decentralization measured by the indicator expressed as the sum of the shares of local and state expenditures (revenues) as a percentage of total government expenditures (revenues) or as a percentage of GDP for country *i* in year *t*, $FCSUB_{i,t}$ is the proxy for fiscal decentralization on sub-central level measured as a the change of the public expenditure (revenue) on sub-central level (state + local level) as a share of the GDP or total public expenditure (revenue) only for years when fiscal consolidation has been implemented and indicated in dataset by Devries et al. (2011) for country i in year t, $DPI_{i,t}$ is proxy for political situation in country and it is measured by party orientation (EXECRLC- party orientation, 1- right, 2 – central, 3 – left), $\alpha_{i,t}$ is constant term and it is assumed that $\varepsilon_{i,t}$ are identically and independently distributed error terms.

The model presented by equation (2) offers several advantages. According to Pablo-Romero and Molina (2013) panel data methodology allows larger number of explanatory variables, larger sample of countries, longer time periods under analysis and greater depth in the relationships between variables. In other words, panel data allows you to control for variables you cannot observe or measure; or variables that change over time but not across entities. Also panel data allows you more accurate inference of model parameters. Panel data usually contain more degrees of freedom and more sample variability than cross-sectional data which may be viewed as a panel with T = 1, or time series data which is a panel with N = 1, hence improving the efficiency of econometric estimates. Finally, panel data generate more accurate predictions for individual outcomes by pooling the data rather than generating predictions of individual outcomes using the data on the individual in question. (e.g. Hsiao et al., 2003, 2005).

4. Results and discussion

We estimate two models presented by equation (2) and (3). In first model we test the importance of fiscal consolidation at government level, while in second model we test the importance of fiscal consolidation on sub-central level, both for regional inequalities. The results of two step Arellano Bond dynamic panel estimator are reported in Table 1. As it can be seen from Table 1, all independent variables have significant impact on regional inequality (except proxy for political situation) as all variables are statistically significant with significance level of at least 10%.

Results indicate that fiscal consolidation is significant for regional inequalities i.e. that it leads to the higher levels of regional inequalities (Model 1). In addition, coefficient on fiscal consolidation on sub-central levels is significant and negative. It implies that fiscal consolidation implemented on sub-central level leads to the lower levels of regional inequalities (Model 2). This could indicate that this kind of fiscal consolidation promotes more efficient market mechanisms in sub-central public service provision, increases the transparency and efficiency of public investment (expenditure channels), but also that it motivates sub-central level government to modify the revenue structure to be more efficient (Taxes on immovable property, User fees). Finally, it could also be signal for more efficient intergovernmental actions.

Table 1 *The impact of central and sub-central fiscal consolidation on regional inequalities*

Variable	Model 1	Model 2
Const.	-0.0205971**	-.0189936 ***
L1	0.5942547***	.6602153 ***
L2	-0.1827101	-.210909***
Fiscal consolidation	0.0007154**	
Fiscal consolidation SUB		-.0001907**
Unemployment	0.0004471***	.0004338***
Inflation	-0.0003515**	-.00033**
Trade openness	0.0001094***	.0000986***
Fiscal decentralization	0.0001227***	.0000953***
Political Situation	0.00000005	.00000001
Number of observations	257	246
Sargan test (p-value)	.9887	0.9948
*, **, ***- indicate significance at 10%, 5% and 1% level		

Source: author's calculation

Our results are in line with similar research conducted by Thornton and Adedeji (2010) who have found that sub-national governments in emerging economies were cutting their capital expenditures and raising their own tax revenues, result of what was increase in inequalities in local public service access and lower quality of services. Besides, Agnello et al. (2016) have found that an important outcome of the implementation of fiscal consolidation programmes is the rise in regional income disparities. Our results also indicate that fiscal consolidation is significant for regional inequalities. Indeed, the regional income gap widens especially in countries facing severe fiscal consolidation adjustments.

5. Conclusion

The effect of fiscal consolidation on regional inequalities is relatively new topic that has lately been attracting more attention. Therefore, the aim of this paper was to analyse the effects of fiscal consolidation on regional inequalities, separately, both on central and sub-central government level by implementing relatively new approach and dataset. Data for 13 EU member states for the period from 1995 to 2009 were collected and panel data analyses was conducted. Our results indicate that fiscal consolidation on central and sub-central government level can have different effects on regional inequalities. Namely, it was shown that fiscal consolidation on central government level leads to the higher levels of regional inequalities, while fiscal consolidation on sub-central government level results in lower levels of regional inequalities. This implies that future research activity should try to investigate the effects of fiscal decentralization on regional growth and inequalities not only in normal periods, but also in periods of intensive economic and financial turmoil. In addition, results indicate that fiscal consolidation has important spatial dimension and therefore future work should try to provide more reliable evidence for more effective fine tuning of public policies, especially policies with significant spatial effects.

REFERENCES

Afonso, A, Schuknecht, L. and Tanzi, V. (2010): **Income distribution determinants and public spending efficiency,** *The Journal of Economic Inequality*, Vol. 8, No. 3, pp. 367-389

Alesina, A., and Ardagna, S. (2012): **The Design of Fiscal Adjustments**, NBER Working Paper, No. 18423, Washington, DC: National Bureau of Economic Research

Alesina A. and Ardagna, S. (1998): **Tales of Fiscal Adjustment**, *Economic Policy* 13, Vol. 27, pp. 489-585.

Agnello L., Fazio G. and R. Sousa (2016): **National Fiscal Consolidations and Regional Inequality in Europe,** *Cambridge Journal of Regions, Economy and Society*, Vol. 9, No. 1, pp. 59-80.

Bartolini, D., Stossberg, S. and Blöchliger, H. (2016): **Fiscal Decentralisation and Regional Disparities**, OECD Economics Department Working Papers, No. 1330, OECD Publishing, Paris, pp. 1-48

Blöchliger, H. (2013): **Fiscal Consolidation Across Government Levels - Part 1. How Much, What Policies?**, OECD Economics Department Working Papers, No. 1070, OECD Publishing, Paris.

Buyse, T. (2015): **Fiscal consolidation and inequality: an empirical analysis**, Paper prepared for the ECFIN Workshop on "Fiscal policy after the crisis", Brussels, 19/01/2016

Castro, V. (2007): **The Causes of Excessive Deficits in the European Union**, Warwick University, Economics Research Paper No. 805

Darby, J. and J. Melitz, (2008): **Social Spending and Automatic Stabilizers in the OECD**, *Economic Policy*, Vol. 23, No. 56, pp. 715–756

Devries, P., Guajardo, J., Leigh, D. and Pescatori, A. (2011): **A new action based dataset of fiscal consolidation**, International Monetary Fund, IMF Working Paper No. 128

Foremny, D., Sacchi, A. and Salotti, S., (2017): **Decentralization and the duration of fiscal consolidation: shifting the burden across layers of government**, *Public Choice*, Vol. 171, No. 3-4, pp 359-387

Ghosh, A.R., Chamon, M., Crowe, C.W., Kim, J. and Ostry, J.D. (2009): **Coping with the Crisis-Policy Options for Emerging Market Countries**, IMF Staff Position Note, No. 8

Guajardo, J., Leigh, D. and Pescatori, A. (2011): **Expensionary Austerity- New International Evidence**, IMF Working Paper, WP/11/158

Heim, J. J. (2010a): **Do Government Deficits Crowd Out Consumer and Investment Spending,** *Journal of the Academy of Business and Economics*, Vol. 10, No. 3, October, 2010.

Heim, J. J.(2010b): **Do Tax Cut and Spending Deficits Have Different Crowd Out Effects?** Rensselaer Polytechnic Institute, Department of Economics, Working Paper No. 1104, 2010

Hsiao C (2003): **Analysis of panel data**, 2nd edn. Econometric society monographs, Vol 34. Cambridge University Press, Cambridge

Hsiao C (2005): **Why panel data?** Singapor Economic Review, Vol. 50, No: 2, pp 1–12

International Monetary Fund (2010): **Will it Hurt? Macroeconomic effects of fiscal consolidation**, World Economic Outlook, October 2010, pp. 93-124.

Jaeger, A. and L. Schuknecht (2007): **Boom–Bust Phases in Asset Prices and Fiscal Policy Behavior,** *Emerging Markets Finance and Trade*, Vol. 43, No. 6, pp. 45–66

Kabashi, R. (2017): **Macroeconomic effects of fiscal policy in the European Union with particular reference to transition countries**, *Public Sector Economics*, Vol. 41, No. 1, pp. 39-69.

Kumar, M., Leigh, D., and Plekhanov, A. (2007): **Fiscal Adjustments- Determinants and Macroeconomic Consequence**, IMF Working Paper, No. 07/178, Washington D.C.

Maroto, R. and Mulas Granados, C. (2007): **What Makes Fiscal Policy Sustainable? A Survival Analysis of Fiscal Consolidations in Europe**, *Public Choice*, Vol. 130, No. 3-4, pp. 24-46.

Muštra, V. (2017): **Who cares about regional inequalities**? **Effects of fiscal consolidation**, *Regional Science Inquiry Journal,* Vol. 9, No. 1, pp. 135 – 144

Pablo-Romero, M. P., and Molina, J. A. (2013): **Tourism and economic growth: A review of empirical literature,** *Tourism Management Perspectives,* Vol 8, pp 28–41

Thornton, J. and Adedeji, O.S. (2010): **Fiscal decentralization and fiscal consolidations in emerging market economies**, *Applied Economics Letters*, Vol. 17, No. 11, pp. 1043-1047

Vammalle, C. and C. Hulbert (2013): **Sub-National Finances and Fiscal Consolidation: Walking on Thin Ice,** OECD Regional Development Working Papers, 2013/02, OECD Publishing

Hrvoje Perčević, PhD.
University of Zagreb
Faculty of Economics and Business
J. F. Kennedy 6, 10 000 Zagreb
Phone: 01 238-3184
E-mail address: hpercevic@efzg.hr

Marina Mićin, Master of Economics
University of Zagreb
Faculty of Economics and Business
J. F. Kennedy 6, 10 000 Zagreb
Phone: 01 238-3184
E-mail address: mmicin@efzg.hr

THE POTENTIAL EFFECTS OF CHANGE IN LEASE ACCOUNTING MODEL ON COMPANIES' FINANCIAL POSITION

ANALIZA POTENCIJALNIH UČINAKA PROMJENE RAČUNOVODSTVENOG MODELA NAJMA NA FINANCIJSKI POLOŽAJ PODUZEĆA

ABSTRACT

The existing accounting model of lease, as defined in IAS 17 – Leases, require the classification of leases on operating and finance leases. The operating lease is based on the assumption that all risks and benefits deriving from the leasehold subject remain with the lessor and that, accordingly, the subject of lease is recorded in the lessee's accounting records and recognized in its financial statements. In the operating lease, the lessee records in his accounting records only the rent relating to the current reporting period. The finance lease is based on the assumption that all the risks and benefits deriving from the ownership of the lease object are transferred from the lessor to the lessee, and accordingly, the subject of the lease is recorded in the accounting records of the lessee and is recognized in its financial statements. The lessee, in addition to the lease subject, credits a financial lease obligation in its financial statements, while the lessor recognizes the receivable on the basis of a finance lease.

Many of the financial statements users have highlighted the negativeness of the operating lease accounting model, primarily because of the fact that the total liability on the basis of operating lease is not recognized in the statement of financial position, but only the part of the liability that relates to the current reporting period. Therefore, the financial statements of a business entity that use a particular asset on the basis of active operating leases do not faithfully display their financial position. In other words, the currently used accounting model of operating lease provides a covert indebtedness of a business entity holding certain assets under operating lease.

In order to eliminate the deficiencies of the existing accounting model of lease, the IASB has developed a new accounting model of lease under which all rental contracts would be treated equally. A new accounting model of lease requires that the lessee recognizes the asset that is object of lease and the total lease liability in their financial statements, while the lessor retains the existing accounting model of lease which is based on the division of leases on operating and financial leases.

This paper explores and analyses the potential effects of changes in the accounting model of lease on the financial position of business entities on the example of the listed companies in the Republic of Croatia.

Key words: *lease accounting, operating lease, finance lease, financial position, Republic of Croatia.*

SAŽETAK

Postojeći računovodstveni model najma definiran u okviru MRS-a 17 – Najmovi zahtijeva klasifikaciju najmova na operativni i financijski najam. Operativni najam temelji se na pretpostavci da svi rizici i koristi koje proizlaze iz vlasništva nad predmetom najma ostaju kod najmodavca te se, temeljem toga, predmet najma evidentira u računovodstvenoj evidenciji najmodavca te priznaje u njegovim financijskim izvještajima. Najmoprimac kod operativnog najma evidentira u svojoj računovodstvenoj evidenciji samo najamninu koja se odnosi na aktualno izvještajno razdoblje. Financijski najam temelji se na pretpostavci da su svi rizici i koristi koje proizlaze iz vlasništva nad predmetom najma transferirani s najmodavca na najmoprimca te se, temeljem toga, predmet najma evidentira u računovodstvenoj evidenciji najmoprimca i priznaje u njegovim financijskim izvještajima. Najmoprimac, pored predmeta najma, priznaje u svojim financijskim izvještajima i obvezu po osnovi financijskog najma, dok najmodavac priznaje potraživanje po osnovi financijskog najma.

Mnogi korisnici financijskih izvještaja isticali su negativnosti računovodstvenog modela operativnog najma, prvenstveno zbog činjenica da se u izvještaju o financijskom položaju ne priznaje ukupna obveza po osnovi operativnog najma, već samo onaj dio obveze koji se odnosi na aktualno izvještajno razdoblje. Iz tog razloga financijski izvještaji subjekta koji koriste određenu imovinu temeljem aktivnih ugovora o operativnom najmu ne prikazuju vjerodostojno njihov financijski položaj. Drugim riječima, aktualni računovodstveni model operativnog najma omogućava prikrivenu zaduženost poslovnog subjekta koji drži određenu imovinu pod operativnim najmom.

U cilju eliminacije nedostataka postojećeg računovodstvenog modela najma, IASB je razvio novi računovodstveni model najma prema kojem bi se svi ugovori o najmu jednako tretirali. Novi računovodstveni model najma zahtijeva da najmoprimac prizna imovinu pod najmom te ukupnu obvezu po osnovi najma u svojim financijskim izvještajima, dok se kod najmodavca zadržava postojeći model temeljen na podjeli najmova na operativne i financijske.

U ovom radu istražuju se i analiziraju potencijalni učinci promjene računovodstvenog modela najma na financijski položaj poslovnih subjekata na primjeru kotirajućih društava u Republici Hrvatskoj.

Ključne riječi: *računovodstvo najma, operativni najam, financijski najam, financijski položaj, Republika Hrvatska.*

1. Introduction

Leasing is a significant source of financing the acquisition of long term assets for many companies, mainly due to its specific accounting treatment. Current lease accounting is carried out through the International Accounting Standard 17 – Leases which requires the determination weather is a particular lease agreement operating or finance lease. All leases which are classified as operating leases are not included in the lessee's statement of financial position, while finance leases are. Operating leases are therefore „off balance sheet“ items which don't have an effect on lessee's financial position. This operating lease accounting model is a matter of major critics by many users of financial statements. Users of financial statements (investors and analysts) are not able to properly evaluate financial position and financial performance of companies with significant

amounts of operating leases. Furthermore, investors and analysts are not able to properly compare companies that borrow to buy assets with those that lease assets through operating lease, without making adjustments. The missing information of operating lease obligations causes the lack of transparency of information in financial statements of companies with significant amounts of operating leases.
In order to improve the lease accounting and to resolve the lack of transparency of information about operating leasing in financial statements, International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) have worked jointly to develop the new lease accounting model. The new lease accounting model was completed and presented in 2016. IASB have developed the new International Financial Reporting Standard 16 – Leases (IFRS 16) in which the new lease accounting model was introduced. IFRS 16 will replace IAS 17 and will be effective from 1 January 2019.
The purpose of this paper is to investigate and to analyze the potential effects of changes in the accounting model of lease on the financial position of business entities on the example of the listed companies from the real sector in the Republic of Croatia.

2. Literature review

2.1. Theoretical framework of lease accounting

Lease is defined as „a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration" (IFRS 16, 2016, A739). Current lease accounting model is defined through IAS 17 and is „focused on identifying when a lease is economically similar to purchasing the assets being leased" (IFRS, 2016, 3). Lease is economically similar to purchasing the assets when the lease transfers substantially all the risks and rewards incidental to ownership from lessor to lessee (IAS 17, 2013). According to IAS 17, if a lease is economically similar to the purchase, i.e. the lease transfers substantially all the risks and rewards incidental to ownership from lessor to lessee, the lease is classified as a finance lease and is reported on a lessor's statement of financial position. In other words, lessees „recognize finance leases as assets and liabilities in their statements of financial position at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payments, each determined at the inception of the lease. Minimum lease payments are apportioned between the finance charge and the reduction of the outstanding liability" (IAS 17, 2003). Since lessors recognize assets and liabilities from finance lease in their statements of financial position, they also recognize depreciation expense for the finance lease assets as well as finance expense for each accounting period. On the other hand, „lessors recognize assets held under a finance lease in their statements of financial position and present them as a receivable at an amount equal to the net investment in the lease" (IAS 17, 2003). Every lease payment from lessee, lessor apportions between finance income and the reduction of net investment in the finance lease (IAS 17, 2003).
All leases which are not economically similar to purchase, i.e. which don't transfer substantially all the risks and rewards incidental to ownership from lessor to lessee, are classified as operating leases. Operating leases are not reported on lessee's statement of financial position but on lessor's. Lessees recognize only lease payments from operating leases as an expense within operating activities. Information about assets and liabilities from operating leases, lessees usually present in notes or in off balance sheet items. Since assets from operating leases are reported in lessors' statements of financial position, lessors recognize depreciation expense as well as lease income from lease payments made by lessees.
This operating lease accounting model has been criticized by many users of financial statements, mainly investors and analysts. The major critic is focused on the lack of information about assets and liabilities from operating leases in lessees' statements of financial position which leads to the lack of transparency of financial statements of companies with significant amounts of operating leases. Without information about operating lease assets and liabilities in statement of financial

position, investors and analysts are not able to properly evaluate company's financial position and, especially, to calculate appropriate debt ratios. In order to eliminate the deficiencies of operating lease accounting, IASB and FASB have developed a new single lease accounting model. IASB have developed the new IFRS 16 in which the new lease accounting model has been introduced.
The new lease accounting model set up in IFRS 16 changes only lessee accounting while lessor accounting mainly remains the same as in IAS 17. „IFRS 16 introduces a single lessee accounting model and requires a lessee to recognize assets and liabilities for all leases with a term of more than 12 months, unless the underlying asset is of low value. A lessee is required to recognize a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments“ (IFRS). Lease accounting model in IFRS 16 eliminates the classification of leases as either operating or finance lease for a lessee and requires that all leases are treated similarly to finance lease in IAS 17 (IFRS 16, 2016, 3). Therefore, lessee capitalizes all leases by recognizing the present value of the lease payments and presents them either as lease assets or together with property, plant and equipment and as lease liability (IFRS 16, 2016, 3).
While lessee accounting is changed significantly under IFRS 16, lessor accounting is basically identical to IAS 17. Lessor continues to classify lease either as operating lease or finance lease just like in IAS 17.
Since the new lease accounting model introduced in IFRS 16 changes only the accounting of operating lease from the lessee perspective, the most significant impact of new lease accounting model will be on financial position of lessee with material operating leases which are not reported on statement of financial position. Lessees with material operating (off balance sheet) leases must recognize assets and liabilities from those leases in their statements of financial position which will result in the increase of assets and liabilities and therefore in the change of their financial position and key financial ratios, especially debt ratios. The impact of recognizing assets and liabilities associated with operating leases on lessee's financial position and key financial ratios (mainly debt ratios) depends on the amount of current off balance sheet operating leases. The more significant the amount of operating lease is, the greater is its impact on the financial position of the lessee.

2.2. Review of previous studies

There are many researches which have conducted in order to assess the impact of lease accounting change on companies' financial position and performance. All of these researches are focused on the impact of operating leasing capitalization on companies' financial statements.
Beattie, Edwards and Goodacre (1998) have investigated the impact of constructive operating lease capitalization on key accounting ratios on a random sample of 300 listed UK companies in the period from 1990 to 1994. On the basis on the results of their research, they have concluded that, „on average, the unrecorded long-term liability represented 39% of reported long-term debt, while the unrecorded asset represented 6% of total assets. Capitalization had a significant impact (at the 1% level) on six of the nine selected ratios (profit margin, return on assets, asset turnover, and three measures of gearing)“. They have also concluded that, in the period from 1990 to 1994, „capitalization had the greatest impact during the trough of the recession“ (Beattie, Edwards and Goodacre, 1998, 233).
Goodacre (2001) have analyzed the potential impact of enforced lease capitalization in the UK retail sector in the period from 1994 to 1999. Results of his research have showed that operating leases is very important in the retail sector, with a long-term liability approximately 3.3 times higher than on-balance sheet long-term debt, while finance leases is immaterial. Operating leased assets, the major part of which is 'land and buildings' (98%), represent a significant proportion (28%) of reported total assets. He have concluded that capitalization of operating leases will have a major impact on all financial ratios especially on asset turnover, interest cover and the three capital-based gearing measures, and especially for general retailers (Googacr, 2001, 18).
Beattie, Goodacre and Thomson (2006) have conducted a questionnaire survey of UK users and preparers of financial statements to assess their views on proposals for lease accounting reform and

on the potential economic consequences of their adoption. The results, based on 132 responses, have indicated that both groups accept that there are deficiencies in the current rules, but they do not agree on the way forward and believe that the proposals would have led to significant economic consequences for key parties (Beattie, Goodacre and Thomson, 2006, 24).
Singh (2011) have illustrated the impact of operating lease capitalization on financial statements and financial ratios on the example of single restaurant company. On the basis of the results of his research, he has concluded that financial statements presented will change dramatically when lease assets and liabilities are added to the balance-sheet. He have also stated that „the expense recognition pattern will change significantly and negatively impact performance measures such as interest coverage and capital ratios but improve cash flow measures such as EBIT and EBITDA“ (Singh, 2011, 820).
Angels Fitó, Moya and Orgaz (2013) were considering the effects of operating lease capitalization on key financial ratios on relevant Spanish companies. Results of their research have showed that the impact of operating lease capitalization on financial ratios is statistically significant especially in retail and energy sector (Fitó, Moya and Orgaz, 2013, 341).
Bohušová (2015) have conducted a research regarding the impact of operating lease capitalization on companies' financial statements and financial analysis ratios on the example of non-financial companies listed on the Prague Stock Exchange and reporting information on operating lease in accordance with IAS 17. The results of her research have showed a negative impact of operating lease capitalization on financial analysis ratios (Bohušová, 2015, 507). She has concluded that the capitalization of operating lease would lead to deterioration of all financial analysis ratios affected by the capitalization (decrease of return on assets and increase of indebtedness and debt/equity ratio) (Bohušová, 2015, 512).
Wong and Joshi (2015) have investigated the impact of lease capitalization on financial statements and key financial ratios on the example of leading Australian companies. The results of their research have showed that financial statements would change significantly when all lease assets and liabilities will be capitalized. They have also concluded that lease capitalization will have a material impact on the reported numbers in the balance sheet and income statement and result in significant changes to return and leverage ratios (Wong and Joshi, 2015, 27).
The results of all above mentioned studies have indicated the significant impact of operating lease capitalization on financial position and financial ratios of companies with material off balance sheet leases.

3. Research methodology and research results

In order to determine the potential effects of changes in lease accounting model on companies´ financial position, the research was conducted on the basis of the listed companies in the Republic of Croatia that operate in the real sector (manufacturing, trade or service provision). Based on the published financial statements for the year 2016, it was analyzed how many companies have a long-term commitment based on a financial lease in the statement of financial position, that is, how many companies have recorded lease expense in the income statement, indicating the existence of an operating lease. In addition, it was determined how many companies that are lessee have announced the amount of liabilities based on operating lease in the following periods on the basis of the operating lease contract in their notes.

3.1. Research methodology

Based on the data available on the Zagreb Stock Exchange website (www.zse.hr), it was determined how much listed companies there are. The research is based on companies in the real sector; therefore, out of the total number of listed companies, companies that belong to the financial sector (banks, insurance and investment funds) are eliminated. Accordingly, targeted research population consists of listed companies in the real sector in the Republic of Croatia (117 companies). Due to the fact that were not available a complete audited financial statements on the basis of which it could determine the existence of a financial or operating lease for all companies, targeted research population has downgraded by six companies. That makes the actual research population of 111 companies (Table 1).

Table 1 *Determination of the research population*

Number of listed companies on Zagreb Stock Exchange	131
Number of listed companied that are not operating in the real sector	(14)
Number of listed companies that belong to real sector	***117***
Number of companies for which audited reports are not available	(5)
Number of companies that published shortened notes on which it is not possible to draw conclusions	(1)
Number of listed companies based on which the analysis was conducted	***111***

Source: Authors

In order to determine how many companies are lessee based on financial leasing, and how much based on operating lease, the notes to the financial statements, in which more detailed long-term liabilities and operating expenses were elaborated, are analyzed. If the company had a long-term liability according to financial lease, it was concluded that the company was the lessee on the basis of a financial lease. If the lease expenses were included in the operating expenses, it was concluded that the company was a lessee on the basis of an operating lease. If the lease expense is not expressed as a part of elaborated operating expense, there is a possibility that the lease expense in these cases were included in other operating expenses, but are not significant enough to show it separately. In such cases no conclusion has been drawn that company is lessee based on the operating lease. Although the lessee express only the cost of lease for the current period in the income statement, those companies should indicate in the notes to the financial statements the amount of total liability taken from operating leases in future periods, so that the user of financial statements knows that there is an existence of those liabilities and costs in future periods. With the application of the new accounting model, the liabilities on the basis of the operating lease will be fully accounted for in the statement of financial position, which will affect the debt ratios of the company. The results of the analysis are presented below in the paper.

3.2. Research results

In the table below it is showed how many of the analyzed companies are a lessee based on the financial lease and operating lease (Table 2). Among 111 analyzed listed companies, one third of the companies (30,63 %) have a long term obligation on the basis of the financial lease. Since the operating lease is not reported by the lessee but by lessor, the existence of operating lease is estimated by the lease cost incurred in the income statement. On the other hand, about 3/4 of the analyzed companies (77,48 %) have expressed lease expense which presents the existence of operating lease. With the new accounting model of lease, in companies which are lessee according to the operating lease, in this case, about 3/4 companies, there will be changes in the financial statement. Those companies will have to recognize the asset which is the object of lease, such as the total lease liability.

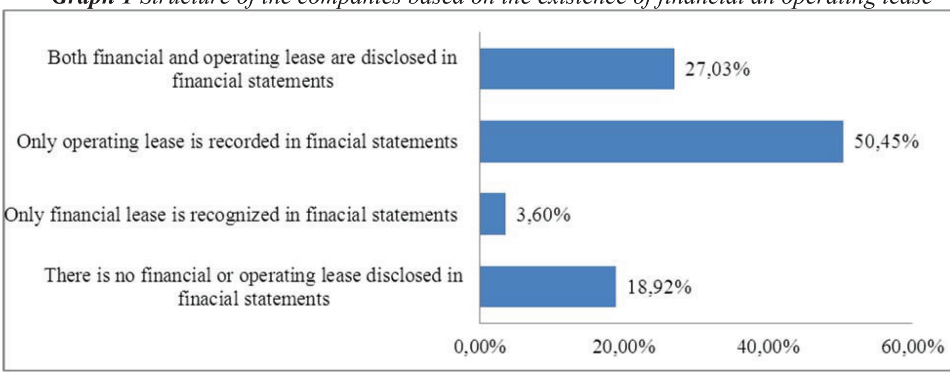
Table 2 *The existence of financial and operating lese in companies as a lessee*

	Number of companies
Financial lease is recognized in financial statements	34
	30,63%
Operating lease cost is recorded in finacial statements	86
	77,48%

Source: Authors

Some companies are lessee based only on one type of the lease (financial or operating) while some of the companies are lessee based on both of the types of lease. Also, there are companies that are not in any of the lease agreements. The structure of the analyzed 111 listed companies from the real sector is shown at graph 1. It can be concluded that 18,92 % of analyzed companies is not in any form of lease as a lessee. That means that 81,08 % of analyzed companies have one form of lease. Among those 81,08 % companies which have one form of lease, four of them (3,60 % of total analyzed companies) have only financial lease recognized in their financial statements. The number of companies that have recorded only lease expense which indicate operating lease is 50,45 %, while for the 27,03 % companies both of the lease types are identified in the financial statements. The changes in lease accounting model will affect only on those companies which are lessee in operating lease agreement, which is around 80 % of analyzed companies. Therefore, it can be concluded that the operating lease is more frequent as a form of lease for lessee in listed companies in Republic of Croatia that belong to the real sector, and that the new accounting model will affect them.

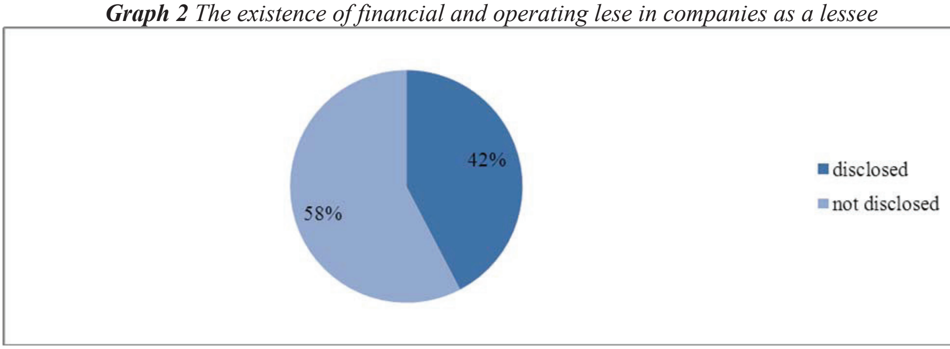
***Graph 1** Structure of the companies based on the existence of financial an operating lease*



Source: Authors

As it is stated before, lessee recognize only lease expenses from operating leases for current period in their income statement, while information about total liabilities from operating leases should be presented in notes or in off balance sheet items. It is analyzed, according to the notes how many of the companies that are lessee have disclosed the total future liabilities from operating lease (Graph 2). It can be concluded that among 85 companies, less than half of them (42 %) have disclosed the total liability form the operating lease, while more than half of them have not (58 %). That indicates that companies which are lessee in operating lease does not adequately present arranged liabilities from the operating lease.

***Graph 2** The existence of financial and operating lese in companies as a lessee*



Source: Authors

Altogether, listed companies form the real sector in the Republic of Croatia prefer operating lease over financial lease, since 77,48 % of them have expressed lease expenses in their income statement, and the asset which is the object of the lease is not recognized in their financial statement such as the total liability for the period of operating lease. With the application of new accounting model, those companies will experience significant changes in the financial reporting of operating leases since they will have to recognize the asset which is the object of lease, and the total lease liability. That will primarily affect their debt ratios, since now they have covered indebtedness because they are not recognizing the total liability for operating lease.

4. Conclusion

In terms of the lease, it is necessary to distinguish between financial and operating leases. The new standard IFRS 16 will replace the existing IAS 17 from 1 January 2019 and it will change the accounting treatment of the operating lease for the lessee. As for the current IAS 17, it requires that the lessee pay for the lease expense for the current year, while the asset that is the object of the lease is stated in the lessor's accounting records. Therefore users of the financial statements does not have information on the assets that a company rents on the basis of the operating lease, as well as information on the total liability arising from the operating lease during the lease period. IFRS 16 requires that operating lease lessee include the asset that is the object of the lease as well as the total lease liability in their financial statements. This will increase the transparency of financial reporting in terms of operating leases. If the assets under operating leases are significant in companies, then it is expected that the application of the new model will have an impact on financial ratios, especially on debt ratios. The paper analyzes how many listed companies in the real sector in the Republic of Croatia rents assets on the basis of a financial or operating lease. It was found that most of the analyzed companies (77,48 %) reported lease expenses indicating the existence of operating leases, while a third of the analyzed companies (30,63 %) reported long-term liabilities on the basis of a financial lease. Some of the analyzed companies are lessees under finance and operating leases, while some companies do not participate in any form of leases. Given the fact that most companies rented assets under operating leases, it is possible to determine that the application of the new accounting model by IFRS 16 will affect most of the analyzed companies, namely on their financial position in terms of increase in assets and liabilities. The strength of the impact will depend on the significance of assets under operating leases. Out of the companies which have expressed lease expense, less than half of them published future contractual obligations under operating leases in the notes to the financial statements, which indicates that reporting on expected commitments under operating lease is not largely transparent.

REFERENCES

Angels Fitó, Moya, S., Orgaz, N. (2015): ***Considering the effects of operating lease capitalization on key financial ratios***, Revista Espanola De Financiacion Y Contabilidad, Vol. XLII, No. 159, pp. 341-369

Beattie, V., Edwards, K., Goodacre, A. (1998): ***The impact of constructive operating lease capitalisation on key accounting ratios,*** Accounting and Business Restarch, Vol. 28. No. 4. pp. 233-254.

Beattie, V. and Goodacre, A. and Thomson, S.J. (2006): ***International lease accounting reform and economic consequences: the views of UK users and preparers***, International journal of accounting Vol. 41(1), pp. 75-103., http://eprints.gla.ac.uk/archive/00002814/
Glasgow ePrints, (accesses 18 March 2018)

Bohušova, H. (2015): ***Is Capitalization of Operating Lease Way to Increase of Comparability of Financial Statements Prepared in Accordance with IFRS and US GAAP?***, Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, Vol. 63(2), pp. 507–514.

Goodacre, Alan (2001): ***The Potential Impact of Enforced Lease Capitalisation in the UK Retail Sector***, University of Stirling, Department of Accounting, Finance & Law, Discussion Paper No. 01/01. Available at SSRN: https://ssrn.com/abstract=279030 or http://dx.doi.org/10.2139/ssrn.279030 (accesses 19 March 2018)

IASB (2016): ***International Financial Reporting Standard 16 Leases***, http://www.ifrs.org/issued-standards/list-of-standards/ifrs-16-leases/ (accesses 20 March 2018)

IASB (2013): ***International Accounting Standard 17 Leases*** http://www.ifrs.org/issued-standards/list-of-standards/ias-17-leases/ (accesses 20 March 2018)

IFRS 16 (2016): ***Project Summary and Feedback Statement***; IFRS Foundation, http://www.ifrs.org/-/media/project/leases/ifrs/published-documents/ifrs16-project-summary.pdf (accesses 20 March 2018)

Singh, A. (2011): ***A restaurant case study of lease accounting impacts of proposed changes in lease accounting rules,*** International Journal of Contemporary Hospitality Management Vol. 23 No. 6, pp. 820-839.

Zagreb Stock Exchange: www.zse.hr

Wong, K, Joshi, M. (2015): ***The Impact of Lease Capitalisation on Financial Statements and Key Ratios: Evidence from Australia,*** Australasian Accounting, Business and Finance Journal, Vol. 9(3), 015, pp. 27-44.

Tonći Svilokos, Assistant Professor
Department of Economics and Business Economics
University of Dubrovnik, Lapadska obala 7, Dubrovnik
Phone:+385 20 445 929
E-mail: tonci.svilokos@unidu.hr

Meri Šuman Tolić, Assistant Professor
Department of Economics and Business Economics
University of Dubrovnik, Lapadska obala 7, Dubrovnik
Phone:+385 20 445 938
E-mail: mstolic@unidu.hr

Perica Vojinić, Assistant Professor
Department of Economics and Business Economics
University of Dubrovnik, Lapadska obala 7, Dubrovnik
Phone:+385 20 445 933
E-mail: perica.vojinic@unidu.hr

FINANCIAL CONDITIONS AND INDUSTRIALISATION IN CEECs

FINANCIJSKI UVJETI I IDUSTRIJALIZACIJA U ZEMLJAMA SJEVEROISTOČNE I ISTOČNE EUROPE

ABSTRACT

Until recently, deindustrialization was a process experienced exclusively by the advanced economies of the world. The shift of the employment from manufacturing to service sector was an expected phase of the process of development. Nevertheless, the trend of deindustrialisation has also appeared in developing countries. This premature deindustrialisation has numerous negative economic and political consequences, and that is why the new EU industrial policy tries to find out the way how to reverse this process and to induce reindustrialisation. The financial sector has an important role in economic enhancing growth, so it could be expected that it has an important role for the development of the manufacturing industry as well.
The aim of this research is to find out if there is any empirical evidence for the existence of discriminated financial conditions for manufacturing sector firms compared to other sector firms in CEEC countries. In this paper micro level data obtained from BEEPS survey that was conducted in 2002, 2005, 2009 and 2013 are analysed. The results suggest that firms operating in manufacturing sector face greater financing obstacles and have higher costs of financing than the firms operating in other sectors of the economy.

Key words*: Financial sector, Deindustrialisation, Manufacturing industry, BEEPS, CEEC.*

SAŽETAK

Sve do nedavno deindustrijalizacija je bila proces koji se mogao primijetiti samo kod najrazvijenijih ekonomija svijeta. Premještanje radne snage iz proizvodnje prema uslužnom sektoru očekivana je faza procesa razvoja. Ipak, trend deindustrijalizacije pojavio se i u zemljama u razvoju. Ta prerana deindustrijalizacija ima brojne negativne gospodarske i političke posljedice i

zato nova industrijska politika EU-a nastoji pronaći način kako preokrenuti taj proces i potaknuti reindustrijalizaciju. Financijski sektor ima važnu ulogu za poticanje gospodarskog rast, pa se može očekivati da također ima važnu ulogu i u razvoju prerađivačke industrije.
Cilj ovog istraživanja je ispitati postoje li empirijski dokazi koji upućuju na postojanje diskriminacijskih financijskih uvjeta za poduzeća u proizvodnom sektoru u odnosu na ostale sektore u zemljama Srednje i Istočne Europe. U ovom radu se analiziraju podaci na mikro razini. Rezultati sugeriraju da se tvrtke koje posluju u proizvodnom sektoru suočavaju s većim financijskim preprekama te da imaju veće troškove financiranja od onih koji djeluju u drugim sektorima gospodarstva. Istraživanje se temelji na podacima iz WDI baze podataka koje je objavila Svjetska banka za razdoblje od 2000. do 2016. godine, te na anketi BEEPS-a koja je provedena 2002., 2005., 2009. i 2013. godine.

Ključne riječi: *Financijski sektor, Deindustrijalizacija, Prerađivačka industrija, BEEPS.*

1. Introduction

The term deindustrialisation is primarily referred to the experience of the advanced economies of the world. Measured by the employment share of manufacturing, those countries have been deindustrialising from the beginning of the second half of the twentieth century. This trend has been less significant in terms of output. In developing countries the process of deindustrialisation have started at lower levels of income compared to the levels of income in developed countries and according to Rodrik (2016) these countries experienced premature deindustrialisation. The opinion that deindustrialisation was a precondition for the successful economic development has been changed after the crises 2008. Nowadays, reindustrialisation is considered as a key process for enhancing economic growth and a better standard of living in post-crisis Europe. Therefore, European Commission set the target to increase the contribution of industry to GDP from 16% to 20% by 2020 in European economy (European Commission, 2014) through highly adaptive, productive, and technologically advanced industries.

The process of reindustrialisation is particularly important for the new EU member states from Central and Eastern Europe. In these countries, transition process was characterised by the decline of state-owned industry. This decline had initiated deindustrialisation process in which the role of services has increased while industry production was reduced. The result of this process was the transformation of post-socialist states into service-dominated economies. At the same time, CEECs experienced the process of financial development. Reforming the banking sector was the first step to financial development and liberalisation. The assumption of recently developed theoretical models states that the development of the financial sector is important for economic growth and therefore for the growth of the manufacturing industry. However, the literature on the relationship between financial conditions and industrialisation process is scarce. This is particularly true for CEEC countries. Therefore, the aim of this paper is to examine the role of the financial sector in the process of de/industrialisation, and to find out if there is any empirical evidence for the existence of discriminated financial conditions for manufacturing sector corporations compared to other sector corporations in CEECs[1]. For this purpose micro level data obtained from BEEPS survey that was conducted in 2002, 2005, 2009 and 2013 are analysed.

The paper is structured as follows. The next section gives an overview of existing literature on thefinancialization and re(de)industrialisation. The process ofindustrialisation in CEECs is

[1] Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland Romania, Slovak Republic and Slovenia

described in Section 3. The empirical results of the enterprise level data are provided in section 4. Concluding remarks are in the last section of the paper.

2. Empirical Literature

The literature on deindustrialisation has been focused on explaining its causes and consequences. The most widely accepted explanation of deindustrialisation phenomenon emerges from Clark's (1940) proposed an inverted U-shaped relationship between economic development and manufacturing employment. Deindustrialisation, respectively the drop in manufacturing employment, occurs when a country reaches a certain level of GDP per capita. The theory was adopted by many economists who state that deindustrialisation emerges with the higher rate of productivity growth in manufacturing relative to services, consequently lowering the employment growth in manufacturing than in services, even if output increases at the same rate (Rowthorn and Wells, 1987; Krugman and Lawrence, 1993; Rowthorn and Ramaswamy, 1997; Rowthorn and Coutts, 2004; Tregenna, 2011). Rowthorn and Wells (1987) distinguish between positive and negative deindustrialisation. Positive deindustrialisation is the normal result of industrial dynamism in a highly developed economy and is a symptom of economic success. It occurs because productivity growth in the manufacturing sector is so rapid that, despite increasing output, employment in this sector is reduced. New jobs are created in service sector so it does not increase total unemployment. Negative deindustrialisation, by contrast, occurs when the industry faces problems like falling output or reduced employment is not absorbed in the service sector and negatively affects total unemployment.

Research literature that clarifies the understanding of the role of financial sector in process of de(re)industrialisation is scarce. The weaknesses of existing work could be overcome if literature on the connections between the financial sector and economic growth is taken into consideration (e.g. King and Levine, 1993; Levine, 1997 and 2005; Rajan and Zingales, 1998;). This literature has been focused on the role of financial intermediaries in facilitating exchange and providing liquidity (e.g., Bencivenga and Smith, 1991) and in diversifying risks (e.g., Acemoglu and Zilibotti, 1997).

Da Rin and Hellmann (2002) examined the role of banks in coordinating investments. They showed that banks may act as catalysts for industrialisation if they are sufficiently large to mobilize a critical mass of firms and if they possess sufficient market power to make profits from coordination. Through their landing and saving policies banks determine the cost of capital and are in a position to influence investment behaviour. The high interest rates impede investment, not only because they increase enterprises' debt burden but also by restraining credit supply.

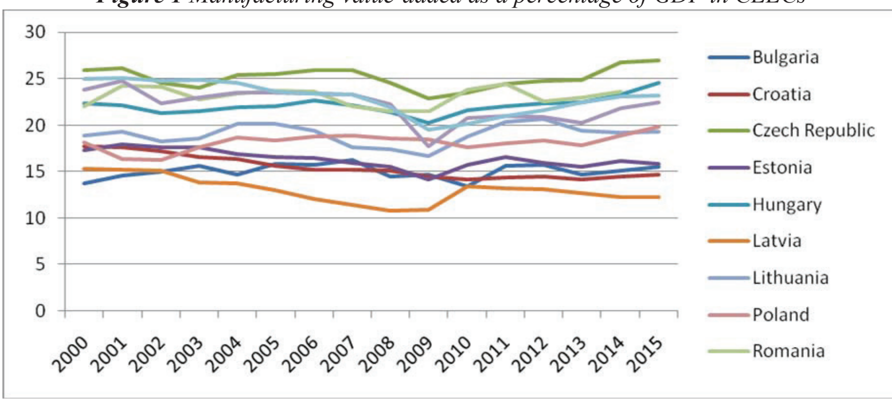
The neoclassical approach to investment was formulated by Jorgesen (1967) and Hall and Jorgesen (1971)indicated that the desired capital had depended on the level of output and the cost of capital, the real interest rate, FDI, inflationand depreciation. According to the neoclassical theory, interest rates, investments and the fluctuations in the private sector had a significant effect on manufacturing sector growth. A high interest rate is a disincentive to investment in manufacturing sector growth, while favourable interest rates enable manufacturing sector to get necessary financial funds.

Volz (2010) analysed the BEEPS data on financial conditions of firms in transition countries. He concluded that a heavy reliance on foreign and state-owned banks has adverse effects on the average firm's financing conditions. An empirical examination of financing conditions on manufacturing industry development is still scarce. This paper therefore attempts to fill the gap.

3. Industrialisation Process in CEECs

The manufacturing value added as a percentage of GDP has fallen in all CEECs countries in the period 2000-2008 (Figure 1). The exceptions were Bulgaria and Poland. In Bulgaria the share was higher in 2008 compared to that in 2000, and in Poland this share remained approximately the same. This declining trend may be explained by deindustrialisation process in which these countries have been transformed into service-oriented economies. In this period, the industry share in Czech Republic, Hungary, Slovak Republic and Slovenia accounted for more than 20% of GDP, while in other countries this share was lower. The lowest share had Latvia. However, the manufacturing value added as a percentage of GDP in CEECs countries is higher than the EU average (16%). The exceptions are Croatia and Latvia. The high share of industry may be explained by the fact that in transition countries deindustrialisation process was shorter compared to Western economies.

Figure 1 *Manufacturing value-added as a percentage of GDP in CEECs*



Source: World Bank Data

The industrialisation process is also reflected in the labour market as a decrease or increase of employment in the industry. The employment in industry as a percentage of total employment fell from 29.3% in 2000 to 24.0% in 2015 in EU. It is evident from the Table 1 that the share of employed workers in the industry is higher for CEECs countries than EU average. This share was declining in all CEECs economies from 2000 to 2015.At the same time, the employment share in services has increased in the period 2000-2015 in all CEEC countries. However, the employment share in services is lower in CEECs compared to that of EU average (70.9%). This share is lowest in Romania and highest in Baltic countries – Estonia, Lithuania and Latvia.

Table 1 *The employment in industry and service sector as a percentage of total employment in CEECs for 2000 and 2015*

	INDUSTRY (% of total employment)		**SERVICE SECTOR (% of total employment)**	
	2000	2015	2000	2015
Bulgaria	32,66	29,89	53,68	63,25
Croatia	28,83	26,79	56,51	63,88
Czech Republic	39,91	38,02	54,79	59,04
Estonia	34,99	30,60	58,65	65,30
Hungary	33,77	30,28	59,76	64,67
Latvia	26,76	23,64	58,32	68,39
Lithuania	26,78	25,07	53,98	65,86
Poland	31,06	30,44	50,27	57,75

	INDUSTRY (% of total employment)		SERVICE SECTOR (% of total employment)	
	2000	2015	2000	2015
Romania	25,79	28,46	29,00	45,96
Slovak Republic	37,24	36,10	55,80	60,69
Slovenia	37,41	31,62	52,41	60,17

Source: World Bank Data

The previous analysis supports the hypothesis that deindustrialisation process has caused resources reallocation from the industrial sector to the service sector. Due to this reallocation, the level of industrial production in several CEECs economies is at the lower level than before the transition period.

4. Access to Finance as a Catalyst of Financialization-led Deindustrialisation

To this point, we have shown that the financial conditionsare importantfor the level of industrialisation. In order to check whether the treatment of the financial sector discriminates industrial over other sectors of economy, we proceed with anempirical analysis of the enterprise level data from the Business Environment and Enterprise Performance Survey (BEEPS).

This World Bank database provides micro-level data on a broad range of issues about the business environment and performance of firms, including business-government relations, firm financing, labour, infrastructure, informal payments and corruption, and other topics. This survey was conducted in five rounds.The last one was conducted in period 2012-2014, and it covered 15883 enterprises in 30 countries all around the world. The objective of the BEEPS survey was to obtain feedback from enterprises in the EBRD countries of operation on their perception of the environment in which they operate as well as to help in building a panel of enterprise data that will make it possible to track changes in the business environment over time. Through face-to-face interviews with owners, managers or finance officers via site visits in the manufacturing and services sectors, BEEPS captures business perceptions of the biggest obstacles to enterprise growth, the relative importance of various constraints to increasing employment and productivity, and the effects of a country's business environment on its international competitiveness. BEEPS database is used to create statistically significant business environment indicators that are comparable across countries. The sample was structured to be representative of each country with specific quotas in terms of region, sector and enterprise size.
In our analysis, we include before mentioned 11 CEEC countries and compare the responses of firms on the crucial questions about the access to finance in surveys for 2002, 2005, 2009 and 2012-2014. We have classified the firms into two broad categories: manufacturing sector and other sectors in order to see if there is significantly different response between groups in different years.

One of the questions in asurvey for 2002 was about the obstacles that the company faced in accessing bank financing sources (e.g., collateral required). Answers of respondents including all CEECsare shown in Table2. From this table we can see that, in all analysed years, other sectors' firms had fewer obstacles in access to finance than manufacturing firms. Namely, thesum of lines 3 and 4 in thetable for other sectors is in all cases greater than the sum of these lines for themanufacturing sector; and thesum of lines 6 and 7 is always smaller for other sectors than the sum of these lines for themanufacturing sector. This difference is especially emphasized in 2005, and this means that the financing issues for manufacturing firms were especially severe during that year.

***Table 2** Answers to BEEPS survey question "How much of an obstacle is: access to finance"*

		2002 (in %)		2005 (in %)		2009 (in %)		2013 (in %)	
		Other sectors	Manuf.	Other sectors	Manuf.	Other sectors	Manuf.	Other sectors	Manuf.
1	Don't know	5.53	4.67	6.30	3.97	3.07	2.34	1.03	1.25
2	Does not apply	..	..	..	..	2.81	2.41	0.21	0.23
3	No obstacle	36.57	35.39	**42.35**	**30.03**	31.74	26.24	50.39	48.87
4	Minor obstacle	17.42	17.14	17.02	17.61	17.48	19.23	14.65	15.01
5	Moderate obstacle	20.04	20.31	**20.69**	**24.80**	22.05	28.17	17.07	16.97
6	Major obstacle	20.73	22.49	**13.64**	**23.59**	14.58	15.15	10.79	10.95
7	Very severe obstacle	..	..	..	..	8.27	6.46	5.87	6.72
8	Total	100	100	100	100	100	100	100	100
9	No. obs:	1,452	1,162	1,745	2,391	2,211	1,222	2,437	1,279

Source: author's calculation

Analysis data for each country separately in every year have shown that this difference was especially significant in 2002 for Croatia, Romania, Latvia, Slovak Republic and Slovenia, in 2005 for Croatia, Romaniaand Hungary, in 2009 for Bulgaria, Poland andSlovenia, and in 2013 for Poland[2].

In order to examine whether the cost of financing the manufacturing firms percept as an obstacle more than in other sectors' firms, we have analysed the answers to another question from BEEPS survey. Namely, the question was to grade how much of an obstacle is the cost of financing. This question was posed only in 2002 and 2005 surveys, so we present the summarized and classified answers to this question in Table3.

***Table 3** Answers to BEEPS survey question "How much of an obstacle is: cost of financing"*

		2002 (in %)		2005 (in %)	
		Other sectors	Manuf.	Other sectors	Manuf.
1	Don't know	2.34	2.07	3.95	2.51
2	No obstacle	27.13	23.06	33.64	21.12
3	Minor obstacle	21.01	19.88	19.54	20.54
4	Moderate obstacle	25.34	25.90	25.16	27.06
5	Major obstacle	24.17	29.09	17.71	28.77
6	Total	100	100	100	100
7	No. obs:	1,452	1,162	1,745	2,391

Source: author's calculation

This answer supportsthe conclusion reached that is based on analysis of information from Table 2. Namely, it is obvious that other sectors' firms cost of financing were perceived as a smaller obstacle in 2002 and in 2005 than manufacturing sector firms (sum of line 2 and 3 for other sector firmsis greater thanfor manufacturing firms for both years, and this is vice versa for line 4 and 5). This was especially emphasized for Croatia, Latviaand Lithuania in 2002 and for Poland and Latvia in 2005. This could indicate that banks charged ahigher interest rate to manufacturing firms than to other firms because they probably assessedtheir business to bemoreriskier. This could also contribute to the process of deindustrialisation, as noticed previously, the financial condition is very important.

Analysis of the question posed only in BEEPS survey in 2009 and 2013 about the perception of most serious obstacle affecting the operation of firms shows the degree of importance of access to finance relatively to other obstacles. The results are shown in Table 4, and they strongly support the

[2]Detailed data for each country separately are not provided in this paper but are available on request.

conclusions of empirical analysis in section 5 about the importance of the financial conditions for industrial production. In 2009 access to finance was particularly recognized as the biggest obstacle faced by the manufacturing firms in Bulgaria, Croatia and Czech Republic. In 2013 this was the case just for Czech Republic, while in other countries the tax rates have been determined as the major obstacle.

Table 4 *Answers to BEEPS survey question "The element of the business environment that presents the biggest obstacle faced by the firm"*

		2009 (in %)		**2013 (in %)**	
		Other sectors	Manuf.	Other sectors	Manuf.
1	Don't know	8.21	7.73	6.10	6.20
2	Refused	..	..	0.28	0.18
3	Does not apply	4.91	6.23	8.29	7.45
4	**Access to finance**	**10.72**	**15.17**	**10.43**	**11.74**
5	Access to land	1.92	1.59	1.9	2.17
6	Business licensing	2.03	2.38	1.57	1.78
7	Corruption	4.00	5.17	4.12	2.70
8	Courts	2.48	1.79	1.37	1.77
9	Crime, theft and similar	2.76	2.16	1.85	1.35
10	Customs and trade	1.26	1.50	1.15	1.53
11	Electricity	1.97	2.66	1.31	2.61
12	**Inadequately educated**	**11.56**	**11.48**	3.90	6.45
13	Labour regulations	4.64	4.09	3.98	5.14
14	Political instability	9.38	7.25	8.51	9.44
15	Practices of competition	9.94	5.75	11.32	9.67
16	Tax administration	5.15	3.24	4.97	5.16
17	**Tax rates**	**17.69**	**21.08**	**26.77**	**22.51**
18	Transport	1.38	0.73	2.16	2.14
19	Total	100	100	100	100
20	No. obs:	2,211	1,222	2,437	1,279

Source: author's calculation

The previous analysis shows that industrial and manufacturing enterprises face the greater finance access obstacles and costs thanother sectors' enterprises. This could be explained by the asymmetry theory. Since the major financial sources are bank credits, and since banks always account for a market risk, the perception of higher risk investment in manufacturing could make the cost of financing for these enterprises to be higher. In that way, this could discourage them to enter the lending market.

5. Concluding remarks

After the crisis of 2008, the researchers have noticed that the process of premature deindustrialisationhas appearedin numerous transition countries. Although this process is prerequisite for the further successful economic development,it seems that deindustrialisationdoes not have so favourable consequences in transition countries.That is why the new EU policy is trying to reverse this and to encourage the reindustrialisationwith numerous measures. Financial conditions are important precondition for the success of the process of the reindustrialisation.

In this paper the micro level data were analysed in order to examine if the financial sector conditions for manufacturing industry are significantly different compared to other sectors in CEEC countries. The BEEPS survey data for 2002, 2005, 2009 and 2012-2014 were used.Our results suggest that in all analysed years, and especially in 2005, other sectors' firms had fewer obstacles in access to finance than manufacturing firms. Furthermore, other sectors' firms cost of financing were perceived as a smaller obstacle than manufacturing sector firmsin 2002 and in 2005. This was especially emphasized for Croatia, Latvia and Lithuania in 2002 and for Poland and Latvia in 2005. We think that it was because banks probably charged a higher interest rate to manufacturing firms than to other firms because they probably assessed their business to beriskier.

The importance of the financial sector for industry development could be evidenced inthe fact that in 2009 access to finance was particularly recognized as the biggest obstacle faced by the manufacturing firms in Bulgaria, Croatia and the Czech Republic. In 2013 this was the case just for the Czech Republic, while in other countries the tax rates have been determined as the major obstacle. Our analysis of BEEPS data also confirms that industrial and manufacturing enterprises face the greater finance access obstacles and costs than other sectors' enterprises. Further research on this topic could be directed to the sectoral analysis of the micro data contained in BEEPS survey in order to see if there are any differences in financial conditions between various kinds of industries.

REFERENCES

Acemoglu, D. and Zilibotti, F. (1997): ***Was Prometheus Unbound by Chance? Risk, Diversification and Growth***, The Journal of Political Economy, 105(4): 709-751.

Bencivenga, V. R. and Smith, B. D. (1991): ***Financial Intermediation and Endogenous Growth***. Review of economic studies, 58 (2): 195-209.

Clark, C. (1940): ***The Conditions of Economic Progress***. London: Macmillan.

Da Rin, M. and Hellmann, T. (2002): ***Banks as Catalysts for Industrialization***, Journal of Financial Intermediation 11, 366–397, doi:10.1006/jfin.2002.0346

European Commission, (2014): ***Communication from the Commission to the European Parliament***, the Council, the European Economic and Social Committee and the Committee of the Regions for a European Industrial Renaissance, Brussels: European Commission

Jorgenson, D. (1967): ***Rational Choice and Patterns of Growth in a Monetary Economy: Discussion,*** American Economic Review,57(2): 557-559.

Jorgenson, D. and Hall R.E. (1971): ***Application of the Theory of Optimum Capital Accumulation.*** In:*Tax Incentives and Capital Spending*, edited by G Fromm, 9-60. Washington: The Brookings Institution, Investment 2, ch. 2, pp. 27-76.

King R.G., &R. Levine., (1993): ***Finance, entrepreneurship and growth***, Journal of Monetary economics, 32, 513-542.

Krugman, P., and Lawrence R. (1993): ***Trade, jobs, and wages***. No. w4478. National Bureau of Economic Research, 1993.

Levine, R. (1997): ***Financial Development and Economic Growth: Views and Agenda***, Journal of Economic Literature, 35: 688–726.

Levine, R. (2005): ***Finance and Growth: Theory and Evidence***, In Handbook of Economic Growth, edited by Philippe Aghion and Steven Durlauf, 865–934. Amsterdam: Elsevier/North-Holland.

Rajan, R.G. and Zingales, L. (1988): ***Financial Dependence and Growth***, The American Economic Review, 88(3): 559-586.

Rodrik, D. (2016): ***Premature deindustrialisation***,Journal of Economic Growth21.1 (2016): 1-33.

Rowthorn, R.,Ramaswamy R. (1997): ***Deindustrialisation: causes and implications***, The World Bank Economic Review 10 (2): 323–39.

Rowthorn, R., Coutts, K. J. Wells. (1987): ***Deindustrialisation and Foreign Trade*** Cambridge: Cambridge University Press.

Rowthorn, R. and Coutts, K. (2004): ***De-industrialisation and the balance of payments in advanced economies***. Cambridge Journal of Economics 28(5): 767-790.

Volz, U.V (2010): ***An empirical examination of firms's financing conditions in transition coutnries,*** International Journal of Emerging and Trnasition Economies, Vol.3., No. 2., 167-193.

Helena Štimac, Ph.D.
Faculty of Economics Osijek
Trg Ljudevita Gaja 7, Osijek
Phone: +38531224400 Fax: +38531211604
E-mail address: helena.stimac@efos.hr

Zvonimir Lozić, M.Ec.
Trg Nikole Šubića Zrinskog 24, Đakovo
Phone: +385958585193
E-mail address: zvonimir.lozic@gmail.com

ANALYSIS OF FOREIGN DIRECT INVESTMENTS IN THE REPUBLIC OF CROATIA

ANALIZA INOZEMNIH IZRAVNIH ULAGANJA U REPUBLIKU HRVATSKU

ABSTRACT

Through the process of globalisation, foreign direct investments are becoming an increasingly important factor in the economic aspect of a country. At a certain time, an investor may invest their capital in an enterprise from another country. There are various factors that affect a potential investor's decision of to enter a new (foreign) market. The goal of this paper is to present the structure of all foreign direct investments in the Republic of Croatia according to activities, the origin of funds, and the type of foreign direct investments, in the period between 1993 and 2016. Furthermore, the attractiveness of the Republic of Croatia for foreign direct investments will be presented. The decision to invest in a certain country can be affected in certain ways (incentives, tax deductions), even though the two key conditions that must be fulfilled in order for a country to become attractive for investments are stability and profitability. During the transition process, the investments in the countries in the region have increased, and this paper will present the position of the Republic of Croatia in relation to those countries. The methods used in the paper are the historical method and the comparative method. The results of the research conducted on the basis of secondary data have shown that the Republic of Croatia is at the very top regarding the inflow of foreign direct investments per capita when considering the surrounding countries, which is definitely a positive indicator. However, the structure of foreign direct investments shows that despite the positive indicators regarding the amount of investments in the Republic of Croatia, the total amount of greenfield investments is not significant. Greenfield investments are the factor that has a positive effect on the exports of the country receiving the investments and they also affect the increase in employment. This fact demonstrates that an appropriate strategy for incentives should be used to change the structure and increase the share of greenfield investments in the total foreign direct investments.

Key words*: foreign direct investments, internationalisation of business, attractiveness, Croatia.*

SAŽETAK

Inozemna izravna ulaganja su procesom globalizacije postala sve važniji faktor u gospodarskom aspektu neke zemlje. U određenom trenutku investitor može investirati svoj kapital u poslovni subjekt u nekoj drugoj državi. Postoje različiti faktori koji utječu na odluku o ulasku potencijalnog *investitora na novo (strano) tržište. Cilj rada je prikazati strukturu ukupnih inozemnih izravnih ulaganja u Republiku Hrvatsku prema djelatnostima, porijeklu sredstava i vrsti inozemnog izravnog ulaganja u periodu između 1993. i 2016. godine. Nadalje, prikazat će se i atraktivnost Republike Hrvatske za inozemna izravna ulaganja. Na odluku o ulaganju u određenu zemlju moguće je na određeni način utjecati (poticajima, smanjenjem poreza), iako su dva ključna uvjeta koja moraju biti ispunjena kako bi neka zemlja postala privlačna za ulaganje: stabilnost i profitabilnost. Procesom tranzicije su se povećala ulaganja u zemlje u okruženju, a u radu će biti prikazana pozicija Republike Hrvatske u odnosu na te zemlje. Metode koje su se koristile u radu su povijesna metoda i komparativna metoda. Rezultati provedenog istraživanja na temelju sekundarnih podataka pokazali su kako je Republika Hrvatska u samom vrhu u priljevu inozemnih izravnih ulaganja po stanovniku, ukoliko se promatraju zemlje u okruženju, što je definitivno dobar podatak. Međutim, struktura inozemnih izravnih investicija pokazuje, da unatoč dobrim pokazateljima u visini ulaganja u Republiku Hrvatsku, ukupan iznos greenfield investicija nije značajan. Upravo greenfield ulaganja pozitivno utječu na izvoz zemlje primatelja investicija, te isto tako povećavaju zaposlenost. Ta činjenica pokazuje kako bi trebalo odgovarajućom strategijom poticanja strukturu promijeniti, te povećati udio greenfield ulaganja u ukupnim inozemnim izravnim ulaganjima.*

Ključne riječi: *inozemna izravna ulaganja, internacionalizacija poslovanja, atraktivnost, Hrvatska.*

1. Introduction

Since the beginning of the 1990s until today, the Croatian economy has changed significantly in the investment climate segment and it has transformed into a modern economy which is open to the world. Investments had a major part in that transformation, domestic as well as foreign. The concept of foreign direct investments (hereafter FDI) means the establishment of subsidiaries in foreign countries by companies entering the market. The goal of the paper is to present the structure of all the FDI in Croatia according to activities, the origin of funds, and the type of the FDI, in the period between 1993 and 2016. Furthermore, the attractiveness of the Republic of Croatia for FDI will be presented. The assumption is that the structure of FDI in the Republic of Croatia is unfavourable, i.e. that the amount of greenfield investments is lower, while brownfield investments are dominant. For a country receiving FDI, greenfield investments represent a larger advantage and benefit, when compared to brownfield investments. If a foreign company invests in establishing a new company or a subsidiary in a foreign market, the country that receives the investment will have significant benefits. Most importantly, greenfield investments have a more significant effect on the increase in employment and exports.

2. Internationalisation of Business

With the globalisation process, business activities on a large number of markets, or on the markets of various countries, are becoming more and more common. Depending on their business strategy, a company may choose among several modes of entering a foreign market. Each of the techniques and internationalisation methods are specific and offer certain options for adjustment to the business circumstances on the foreign market. In certain cases, standard exportation can be the best option, but in cases of larger enterprises that base their competitive advantage on technological capabilities for example, foreign direct investments can be a better option for a company, because by doing this it could eliminate the threat of possible competition on the basis of the mentioned advantage.

Before a company decides to enter a foreign market, it is necessary to analyse all the factors that affect the selection of the mode the company will use to enter that market. According to Hill, Hwag, and Kim (Lazibat and Kolaković, 2004, 113-115), there are three groups of factors which affect the selection of the mode for entering a foreign market:

a) Strategic factors – they reflect the selection of the company strategy and are especially important when making the decision on the selection of the mode for entering a foreign market. They include: The scope of national differences, the economy of volume level, and concentration. There are significant differences among companies when it comes to understanding various markets. Also, various approaches to business activities require various international experience and knowledge about the market.
b) Environmental factors – maybe the most important factors in the decision to enter a foreign market. These factors include: Country risk, local knowledge, demand conditions, and conditions regarding competition. Country risk is a key factor and if investors believe that the political and economic conditions in a country could be unstable, that can dissuade them from investing in a certain country.
c) Transaction factors are related to the costs created during various business activities. They include the value of specific knowledge possessed by a company and used by that company to achieve competitive advantage by developing skills through their operations. They usually try to protect those skills by protecting their intellectual property.

Further in the text, individual modes for entering a foreign market (exporting, licensing, "turnkey" projects, joint ventures, franchising) will be explain and more emphasis will be placed on the FDI.

Table 1 *Market entry strategies*

Market entry strategies	Characteristics
Exporting	According to Matić (2004, 167), exporting is the least expensive and easiest way to internationalize a business. Exporting causes the least amount of "interference" in the business operations of a company, and it creates less risk than other modes for entering the international market. From the organisational point of view, an enterprise can export in two ways: Independently (direct exporting) or through an independent company in their own country or an intermediary at the foreign market that will export the goods on their behalf (indirect exporting). The decision on the selection of the type of exporting (direct or indirect) depends on many factors. The following should be considered: What kind of a product is exported, what are the distribution regulations in the target country, who are the end consumers, what are the manufacturer's intentions regarding product marketing control, and what costs are acceptable.
Licensing	If the entry into a foreign market through exportation is difficult or impossible, a company may decide to sell a license. Licensing is a contractual arrangement whereby one enterprise is given the right to partners, trademarks, know-how, and other intangible assets by its owner in return for a royalty or a fee. Licensing provides a low-risk, quick, and capital free entry to the host country. The two companies share ownership, control, and profits of the entity (Michalski, 2015, 110). According to Matić (2004, 205-207) licensing includes a range of different combinations aimed at obtaining the right to use someone's intellectual property. The goals of the companies that choose this mode of entering the international market are usually: Inability to enter the market using any other modes, creating the base for more complex methods of entering the foreign market, acquiring income from selling the license.
Turnkey Projects	Kolaković and Lazibat (2004, 116) define a turnkey project as a process of providing a range of services to an international client. The service provider undertakes to execute all the components related to a certain project (e.g. building a ship, a factory, a hotel, and similar) on the basis of their specific knowledge. If a single company is unable to complete all the activities related to the project, a consortium of companies, which enter into a contractual relationship, can be founded.
Joint Venture	Matić and Ćenan (2007, 18) define joint ventures as various forms of business cooperation between domestic enterprises and those from abroad. A joint venture, often called a strategic alliance, involves investment by both a foreign enterprise and a local enterprise to create a new entity. Joint ventures are popular because one enterprise may not have the necessary financial, technical, or managerial resources to enter a market alone. This approach also often ensures against barriers being imposed on the foreign company by the government of the host enterprise (Michalski, 2015, 110). During the 1960s and the 1970s, large companies from developed countries wanted to preserve full control over their subsidiaries abroad, so they preferred the 100% ownership of their subsidiaries abroad (Matić, Ćenan, 2007, 18).
Franchising	According to the definition by the Franchise Centre Osijek (2017), a franchise is a privilege or a granted right to an individual or a group that enables the beneficiary to engage in some form of commercial activities. Also, Michalski (2015, 110) defines a franchise as an authority that is given by an enterprise to someone, allowing them to sell its goods or services or to take part in an activity which the enterprise controls. Franchising is mutually beneficial to both franchiser and franchisee. The franchise is

Market entry strategies	Characteristics
	distinguished by two features: (i) the franchiser owns a trade mark and licenses it to a franchisee in return for royalty payments; (ii) the franchisee pays for the right to be part of the system of doing business.

Source: Analysis of characteristics of market entry strategies according to Matić (2004, 167, 205-207), Michalski (2015, 110), Kolaković and Lazibat (2004, 116), Matić and Čenan (2007, 18) and Franchise Centre Osijek (2017)

2.1. Foreign Direct Investments (FDI)

Foreign direct investment (FDI) used to involve an enterprise investing in building or upgrading a factory in another country (Kotler, Keller, 2006). Currently it has been expanded to include the acquisition of a controlling interest in a company in another market. There are several ways in which an enterprise can invest directly in foreign markets: 1) construction of facilities or investment in facilities in a foreign market; 2) mergers and acquisitions; 3) investment in a joint venture located in a foreign market (Michalski, 2015, 110). Julius (1991) also defines FDI as founding of subsidiaries in foreign countries by a company entering that market, and differentiates FDI as: a) greenfield investments (opening a new manufacturing facility), b) brownfield investments (investing in an existing facility), and c) mergers and acquisitions. Greenfield investments generate the greatest benefits for the country receiving the investments, because the invested capital is accumulated into new production facilities that create added value and represent potential exports for the country. Brownfield investments are similar in nature and are created by privatising an existing company. Mergers and acquisitions are speculative in nature and the most common motive behind them is optimising a portfolio, exploiting the advantages of the country being invested in (size of the market, location, natural resources, developed infrastructure, cheaper labour, available technology, and similar). Other investments that are not categorised as FDI are portfolio investments (the percentage of the acquired share in ownership is less than 10%) and other foreign investments (foreign loans). (Jošić, 2006, 15).

Kolaković and Lazibat (2004, 110) listed the following situations where FDI are applied:

- If a company has plenty of international experience
- If a company has a distinct competitive advantage over the local competitors
- If the market which the company is entering is large enough
- If it is geographically close to the seat of the company

Other factors, apart from the attractiveness of the market, affect a company's decision on engaging in FDI. For example, a decision on a FDI may be attractive to a company that wants to be close to the source of cheap and experienced labour or if there is an opportunity to minimise transportation costs. The implementation of a global strategy, especially if that strategy is based on strong production interdependence of national operations, usually requires the founding of subsidiaries. Only a subsidiary of a company can provide the company with a certain level of control, which is necessary to coordinate international production. Table 2 lists the advantages and disadvantages of FDI.

***Table 2** Advantages and disadvantages of FDI*

Advantages of FDI	Disadvantages of FDI
1. Owning subsidiaries in foreign markets. This enables a company that bases its competitive advantage on technological capabilities to reduce the risk of losing control of these capabilities. For that reason, many high technology companies choose this mode for entering foreign markets. 2. Subsidiaries enable the company to firmly control all their operations in foreign countries. 3. Founding subsidiaries enables the reduction of production costs (if the companies are aiming for	1. The most expensive way to enter a foreign market. 2. The company being taken over can create more additional problems and expenses that would outweigh the benefits of reduced risk due to the knowledge of business practices in a certain country. 3. A longer period is required for the positive results of FDI to become evident, which creates risk for the company. Changes may occur during that period and those changes can result in the reduced support for foreign capital (ideological and political changes).

Advantages of FDI	Disadvantages of FDI
transnational and global strategies). 4. They provide the company with the option to adjust their products to local needs and tastes. 5. They provide the company with the option to create a recognisable brand in the foreign market.	4. They can cause significant expenses in case the international operations are stopped. 5. The decision on the FDI is very demanding and complex, and it requires an estimate of legal, political, economic, social, and cultural variables that may affect the business activities of the company.

Source: Kolaković and Lazibat (2004, 110,111)

According to Buckley and Casson (1981), the level of FDI has a positive correlation with the absolute size of the market. It is also confirmed that the size of the domestic market and the growth rate of an economy affects the amount of incoming FDI. Potential investors consider the purchasing power and the size of the market in the country where they are investing, and they particularly consider the growth level of the national income. Many papers have analysed the influence of the exchange rate on the FDI. According to Aristotelous and Fountas (1996), the appreciation of the investor's domestic currency increases the inflow of that currency. It is also true that the expected increase in value of the currency in the country receiving the FDI will affect the reduction of FDI. On the other hand, a stable exchange rate may increase the inflow of FDI. Taxes may also affect the FDI. Morsink (1998) determined that higher taxes in the country receiving the FDI result in the outflow of FDI abroad.

3. Analysis of Foreign Direct Investments in Croatia

The information on FDI for Croatia is monitored by the Croatian National Bank (hereafter CNB) and it includes equity capital, creditor/debtor relationships, and retained earnings between related residents and non-residents. According to the statistical data of the CNB for foreign direct investments, equity capital represents the investments where a foreign owner acquires at least a 10%[1] share in the capital stock of a company, regardless whether the investment is related to residents investing abroad or non-residents investing in Croatian residents. Further in the paper, the FDI in Croatia will be analysed according to activities, origin of the funds, and the type of FDI.

3.1. Analysis of Foreign Direct Investments According to Activities

The total amount of FDI in the period 1993-2016 was a little over 30 billion euro. Certain activities are dominant regarding FDI in Croatia. According to the CNB data (2017), the largest amount of investments in Croatia, according to activities, was in financial and service activities (apart from insurance and pension funds) (1/3 of the total FDI), in the wholesale sector, and in the real property business. The mentioned information, as well as the remaining activities, can be seen in Table xy.

***Table 3** The amount of FDI in Croatia in the period 1993-2016 according to the activities being invested in (billions of €)*

Activity	Total
Financial service activities, apart from insurance and pension funds	9,464.1
Wholesale sector, apart from the motor vehicle and motorcycle trading	2,716.8
Real property trading	2,055.5
Telecommunication	1,882.9
Retail sector, apart from the motor vehicle and motorcycle trading	1,758.5
Equity capital investments in real property	1,343.8
Production of coke and refined oil products	1,284.6
Building construction	1,058.7
Production of basic pharmaceutical products and pharmaceutical preparations	1,093.9

[1] https://www.hnb.hr/ (accessed 14 December 2017)

Activity	Total
Accommodations	975.8
Production of other non-metal mineral products	788.9
Production of tobacco products	545.1

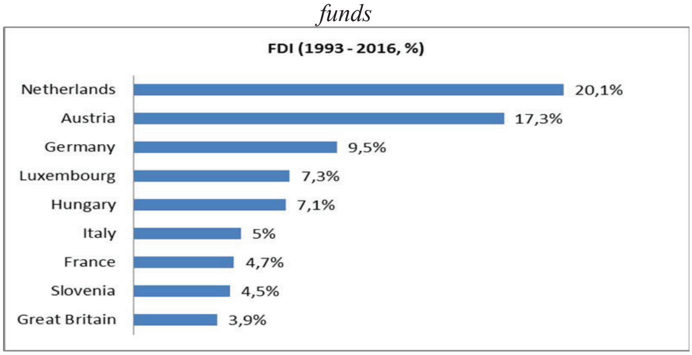
Source: Croatian National Bank (2017), processed by the authors, https://www.hnb.hr/statistika/statisticki-podaci/sektor-inozemstva/inozemna-izravna-ulaganja (accessed 14 December 2017)

Financial intermediation, with the total amount of little less than 10 billion euro, takes up the share of 23.83% in the total FDI amount. When looking at other activities, the share taken by the wholesale sector is 9.07 %, other business activities 8.88%, postal services and telecommunication 6.34 %, retail sector 6.21%, production of coke and other oil products 4.39%, equity capital investments in real property 4.3%, and the production of chemicals 4.2%.[2]

3.2. Analysis of Foreign Direct Investments According to the Origin of Funds (1993-2016)

According to the statistical data by the CNB (2017), the highest share in total FDI according to the origin of funds is coming from the Netherlands, then from Austria, and then Germany, which is shown in Graph 1.

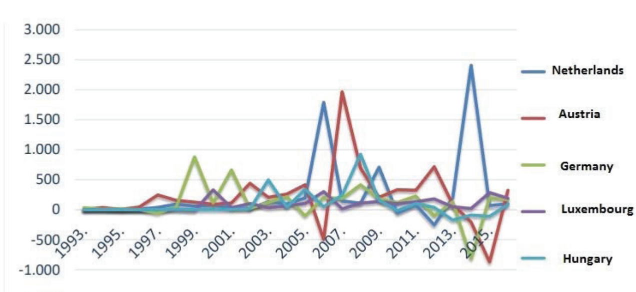
Graph 1 *Share of FDI in the Republic of Croatia in the period 1993-2016 according to the origin of funds*



Source: Croatian Chamber of Economy (2017)

Graph 2 shows the amount of FDI from the 5 countries with the highest share in the total FDI in the Republic of Croatia for each year.

Graph 2 *FDI countries with the largest share in the total share of FDI in Croatia*



Source: Croatian National Bank (2017)

[2] https://www.hgk.hr/documents/predstavljanje-hgk-interkativne-karte-investicjskog-potenicjala-zupanija-rh10-travnja-2017final58eb760976f37.pdf

The highest point of the total FDI from the Netherlands was in 2014, when the investments from that country were 2.4 billion euro. The graph also shows that the highest amount of FDI from Austria arrived in 2007, when it was 1.9 billion euro. Due to the effects of the financial crisis, there was a drop of FDI in Croatia. The inflow of FDI had a falling tendency after 2008-2009, which the graph clearly shows. That drop was present until 2013, when foreign direct investments started showing positive results.

3.3. Analysis of Foreign Direct Investments According to the Type of Foreign Direct Investments

It is in the best interest of every country that investments from other countries contribute to the increase in employment, the increase in GDP, which is achieved through greenfield investments. According to the Strategy for Encouraging Investments in Croatia for the Period 2014-2020[3], Croatia stands out in the total FDI structure among the countries in transition as the country with the highest amount of FDI in relative terms. However, despite the relatively high level of FDI, the usual positive effect on domestic economy has not appeared, due to the unfavourable investment structure. Namely, only about 20% of the total FDI were *greenfield* investments, while the rest was privatisation, acquisitions, and other forms of investment.

Table 4 *Foreign direct investments according to the type of investment in the period 2005-2013*

Type of Investment	2005	2006	2007	2008	2009	2010	2011	2012	2013	TOTAL
Greenfield	766.1	821.4	1,373.2	1,231.9	673.1	1,127.3	991.8	249.9	285.9	**7,520.6**
Brownfield	597.4	1,614.4	1,362.7	1,499.4	282.9	-207.3	1,255.2	823.1	12.3	**7,240.1**
TOTAL	**1,363.4**	**2,435.8**	**2,736.0**	**2,731.3**	**956.1**	**919.9**	**2,247.0**	**1,073.0**	**298.2**	**14,760.7**

Source: Croatian National Bank (2017)

Table 4 shows that in the period from 2005 to 2013 the highest share of *greenfield* investments was 51% of the total FDI, while acquisitions and capital increases in acquired companies, i.e. brownfield investments were represented with 49%[4]. According to the above mentioned Strategy for Encouraging Investments in Croatia for the Period 2014-2020, the total FDI have not had an effect on the Croatian economy. It states that due to the structure of the sector that was invested in, the export potential of Croatia, as an FDI recipient county, was affected. Considering that the Croatian economy was receiving FDI mostly in the service sector, instead in the exportation oriented production, they did not affect exportation.

Also, according to the previously mentioned Strategy, despite the relatively high level of FDI in Croatia in the period before the world economic crisis, there were no positive effects on the growth of employment, production, and exports, primarily due to the structure of FDI. When looking at the activities, the largest share of *greenfield* investments in the observed period went into the financial intermediation sector (banking), 26%, and the wholesale and commercial intermediation sector, which received 12% of the total amount of greenfield investments, which means that the structure of *greenfield* investments was unfavourable and that they did not have an effect on the economy similar to those achieved in some other countries. As previously stated, the positive effects of FDI on the increase in employment and exports were not present. The total amount of FDI in the

[3] Ministry of Economy, Entrepreneurship and Crafts (2014): ***Enacted Strategy for Encouraging Investments in the Republic of Croatia 2014-2020***, https://www.mingo.hr/page/donesena-strategija-poticanja-inovacija-republike-hrvatske-2014-2020 (accessed 8 December 2017)

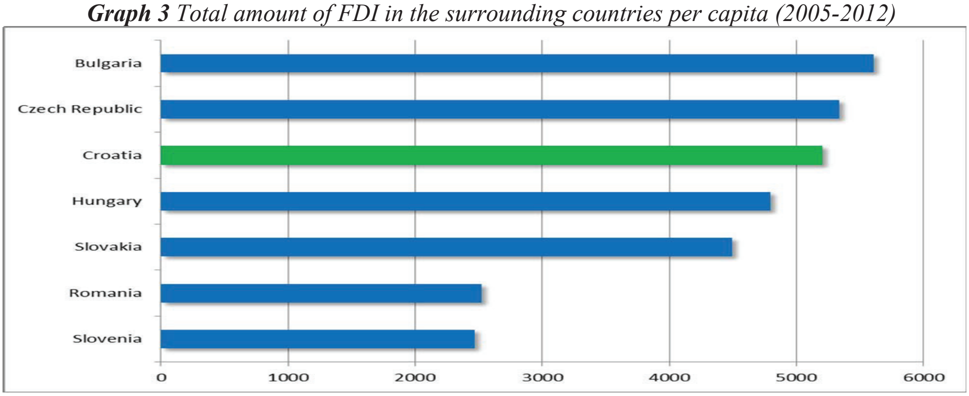
[4] According to the CNB, the classification of capital increase in banks depends on the way the banks were founded. For example, banks that have been acquired are classified as increasing capital in acquired companies, while newly founded banks are classified as *greenfield* investments

Republic of Croatia, since they were started being recorded, never exceeded the 10% share in the total GDP. The highest share of FDI in the GDP of the Republic of Croatia was in 2008, when it was 8.5% of the total share, while for example in 2010 it was only 0.8% of the total share in the GDP (CNB, 2017).

3.4. Attractiveness of Croatia for Foreign Direct Investments

According to the Strategy for Encouraging Investments in the Republic of Croatia (2014) for the period 2014-2020, the Croatian economy was constantly developing and upgrading its business and investment environment, making it more attractive for investors. However, not enough was achieved regarding the strategic documents and guidelines for attracting foreign investments, so the investments in the Croatian economy were mostly oriented at brownfield investments. The mentioned strategy provides the opportunity to change that and to focus the resources on attracting greenfield investments, with a special emphasis on export-oriented investments, which would have a direct effect on the increase in exports and of course on the increase in employment. After Croatia joined the EU, a new range of options presented itself, considering the fact that the Croatian economy was granted access to the market with over 500 million people. Its geostrategic position as a Central European and a Mediterranean country provides Croatia with a significant competitive advantage, and we are also becoming interesting as a new place for importing and exporting goods and raw material for one of the largest single markets in the world. The Republic of Croatia should focus on investments in infrastructure, in order to facilitate the flow of goods, services, and information, as well on production and high technology, in order to boost employment with high added value and exports, on the energy industry and the protection of the environment, to ensure lower dependence on energy imports and sustainability, and on tourism, to maximise the use of the existing natural resources. Graph 3 will show the position of the Republic of Croatia in attracting FDI when compared to the surrounding countries.

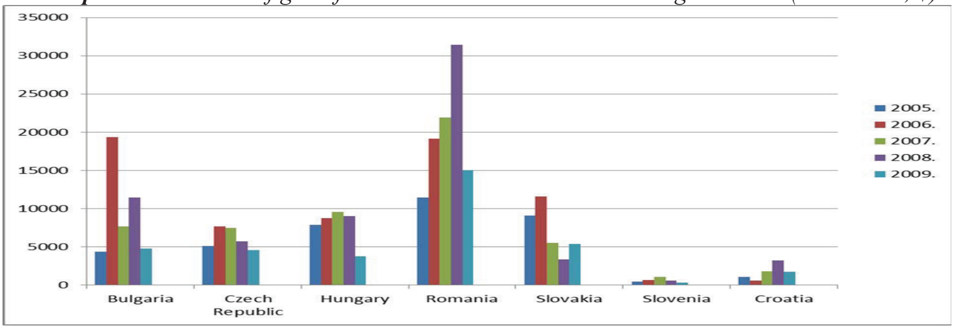
Graph 3 *Total amount of FDI in the surrounding countries per capita (2005-2012)*



Source: World Investment Report 2013. (Strategy for Encouraging Investments in the Republic of Croatia for the Period 2014-2020)

As the graph shows, Croatia is at the top of the countries according to the amount of total FDI in the period 2005-2012. Only Bulgaria and the Czech Republic are ahead of Croatia. The total amount of FDI per capita in dollars was used in this analysis. The highest FDI per capita was achieved in Bulgaria, while Croatia is in the third place. In the first three stated countries, the amount of FDI per capita is higher than $5,000. The following graph will show the FDI structure in the surrounding countries, i.e. the amount of greenfield investments, which provide the most benefits to the country receiving the FDI.

Graph 4 *The amount of greenfield investments in the surrounding countries (2005-2009; $)*



Source: World Investment Report 2013. (Strategy for Encouraging Investments in the Republic of Croatia for the Period 2014-2020)

The highest concentration of greenfield investments was in Romania, where the total share of greenfield investments for each year of the observed period was significant. The lowest amount of greenfield investments was in Slovenia and only a slightly higher amount was in Croatia, compared to Slovenia. When looking at the surrounding countries in the 8 year period, it is evident that Croatia lacks strategies for attracting greenfield investments, which would provide the most benefits, and it also shows that Croatia should encourage such projects more strongly.

4. Conclusion

The largest share of FDI, along with banking, was placed in the trade and real property business sectors, which affected the fact that most of the new FDI went to the services sector and not in production. Most of the FDI inflow is coming from the Netherlands, Austria, and Germany. The worrying thing about the FDI is their structure (about 20% of the total FDI are greenfield investments). The stated proves that the structure of FDI in the Republic of Croatia is unfavourable and that the largest share of FDI in the Republic of Croatia is in brownfield investments.

After Croatia joined the European Union, there was an opportunity for easier access of foreign capital. The geostrategic position of Croatia as a Central European and Mediterranean country provides it with a certain competitive advantage when compared to some other countries. This factor is what makes Croatia especially attractive for potential investors, and with the increase in FDI, they can be a significant factor in the economic system of the Republic of Croatia. All of the stated indicators confirm the potential of the Republic of Croatia for attracting FDI. Considering the well known privatisation of large state-owned companies, there is also the danger that strategic Croatian companies may be taken over by foreign owners. With all that in mind, the mentioned strategy focuses the FDI at greenfield projects that will have a positive effect on the overall economy in Croatia.

REFERENCES

Books:

Julius, D. (1991.): ***Foreign Direct Investment: The Neglected Twin of Trade***, Group of Thirty, Occasional Papers, 33, Washington.

Kotler, Ph., Keller, K.L. (2006): ***Marketing Management***. Prentice Hall, New Jersey

Lazibat T., Kolaković M. (2004): ***Međunarodno poslovanje u uvjetima globalizacije***, Sinergija nakladništvo, Zagreb

Matić, B. (2004): ***Međunarodno poslovanje***, Sinergija nakladništvo, Zagreb

Morsink, R. (1998): ***Foreign Direct Investment adn Corporate Networking: A Framework for Spatial Analysis of Investment Conditions***, Edward Elgar, Cheltenham.

Book of Proceedings:

Jošić, M. (2006): ***Inozemna izravna ulaganja u funkciji izvoza: slučaj Hrvatske***, Zbornik Ekonomskog fakulteta u Zagrebu, godina 6, pp. 13-27.

Journal Articles:

Aristotelous, K., Fountas, S. (1996): ***An Empirical Analysis of Inward Foreign Direct Investment Flows in the EU with Emphasis on the Market Enlargement Hypothesis***, Journal of Common Market Studies, Vol. 34, No.4, pp. 571-584.

Buckley, P.J., Casson, M. (1981): ***The Optimal Timing of a Foreign Direct Investment***, Economic Journal, Vol. 91, No. 361, pp. 75-87.

Matić, B., Ćenan, D. (2007): ***Analiza motiva za međunarodna zajednička ulaganja u Republici Hrvatskoj***, Zbornik Ekonomskog fakulteta u Zagrebu, Vol. 5, No. 5, pp. 17-28.

Michalski, E. (2015): ***Foreign market entry strategy***, Acta Scientiarum Polonorum. Oeconomia, Vol. 14, No. 2, pp. 107-117

Internet Resources:

Centar za franšizu Osijek (2017), http://www.fransiza.hr/fransiza/fransiza.htm (accessed 17 December 2017)

Croatian Chamber of Economy (2017): ***Interaktivna karta investicijskog potencijala županija Republike Hrvatske***, https://www.hgk.hr/documents/predstavljanje-hgk-interkativne-karte-investicjskog-potenicjala-zupanija-rh10-travnja-2017final58eb760976f37.pdf (accessed 8 December 2017)

Croatian National Bank (CNB), https://www.hnb.hr/ (accessed 14 December 2017)

Ministarstvo gospodarska, poduzetništva i obrta (2014): ***Donesena Strategija poticanja inovacija Republike Hrvatske 2014.-2020.***, https://www.mingo.hr/page/donesena-strategija-poticanja-inovacija-republike-hrvatske-2014-2020 (accessed 8 December 2017)

M.Sc. Andreja Švigir
Altius savjetovanjed.o.o.
I.B.Mažuranić 24
Phone: 099-319-23-67
E-mail address: andreja.svigir@altius.hr

Professor Katarina Žager, PhD.
Faculty of Economics in Zagreb
Trg J. F. Kennedya 6
Phone: 01/ 238 3163
E-mail address: kzager@efzg.hr

ROLE OF REGULATORY BODIES IN CREATING INTEGRATED REPORTING SYSTEM

ULOGA REGULATORNIH TIJELA U KREIRANJU INTEGRIRANOG IZVJEŠTAVANJA

ABSTRACT

Corporate reporting has been changing rapidly in the last decades. Requirements of regulatory bodies towards corporations are increasing, in terms of the number of information that needs to be disclosed to the interested public. A major challenge lately discussed at great length by professional organizations pertains, among other things, to particularly important non-financial information about human capital or, for example, environmental protection. Although these are difficult to measure or display through financial reports, it is indisputable that they have a significant impact on creating capital and on companies' long-term success. These are topics directed towards ways of creating capital and actually show the interest in creating quality future for the generations to come. It is this fact which implies that the obligation of disclosing non-financial information needs to be legally regulated so that reporting is no longer optional but mandatory for all companies, and not only for the big ones. In that context, professional organizations play particularly significant role, and especially regulatory bodies that define the types of information and manner of their presentation to external users. The future of corporate reporting is related to integrated reporting. Hence, building a regulated system of integrated reporting that would include relevant financial and non-financial information should be an objective of all interested parties. The International Integrated Reporting Council, as well as other bodies, significantly contributes to the development of integrated reporting. This contribution reflects in providing solutions, but also in opening cutting-edge topics and issues related to implementation of efficient reporting system.
The purpose of this paper is to point out the significance of regulatory bodies in creating efficient financial and non-financial integrated reporting system. The paper presents the most important international regulatory bodies and organizations which have a particularly significant impact on shaping a reporting system for external users, and especially an integrated reporting system, as well as the role and significance of national regulatory bodies which can contribute to efficient implementation of an integrated reporting system in the Republic of Croatia.

Key words: *integrated reporting, non-financial reporting, council of integrated reporting, regulatory bodies, business decisions making.*

SAŽETAK

Korporativno izvještavanje zadnjih desetljeća ubrzano se mijenja. Sve su veći zahtjevi regulatornih tijela prema korporacijama koji se primarno odnose na brojnost informacija koje se trebaju prezentirati zainteresiranoj javnosti. Veliki izazov o kojem strukovne organizacije u posljednje vrijeme raspravljaju, odnosi se, između ostalog, na posebno važnene financijske informacije vezane uz ljudski kapital, ili primjerice zaštitu okoliša. Iako ih je teško mjeriti i prikazati kroz financijske izvještaje, neosporno je da oni imaju značajan utjecaj na stvaranje kapitala kao i dugoročnu uspješnost poduzeća. Radi se o temama koje usmjerene na načine stvaranja kapitala, zapravo pokazuju interes za izgradnju kvalitetne budućnosti generacijama koje dolaze. Upravo ta činjenica traži da se obveza prezentiranja nefinancijskih informacija zakonski regulira kako se više ne bi radilo o opcionalnom, već obveznom izvještavanju za sva, a ne samo velika, poduzeća. U tom kontekstu posebno značajnu ulogu imaju strukovne organizacije, a posebice regulatorna tijela koja definiraju vrste i način prezentiranja informacija eksternim korisnicima. Budućnost korporativnog izvještavanja vezana je uz integrirano izvještavanje. Stoga bi izgradnja reguliranog sustava integriranog izvještavanja koje bi uključivalo relevantne financijske i nefinancijske informacije trebao biti cilj kojem trebaju težiti sve zainteresirane strane. Vijeće integriranog izvještavanja (The International Integrated Reporting Council), kao i druga tijela daju značajan doprinos razvoju integriranog izvještavanja. Taj se doprinos ogleda kroz davanje rješenja, ali i otvaranje aktualnih tema i pitanja vezanih uz implementaciju učinkovitog sustava izvještavanja.

Cilj ovog rada je ukazati na značaj regulatornih tijela u kreiranju učinkovitog sustava integriranog financijskog i nefinancijskog izvještavanja. U radu će biti prikazana najznačajnija međunarodna regulatorna tijela i organizacije koje imaju posebno značaja utjecaj na oblikovanje sustava izvještavanja eksternih korisnika, a posebno sustava integriranog izvještavanja kao i uloga i značaj nacionalnih regulatornih tijela koje mogu doprinijeti učinkovitoj primjeni sustava integriranog izvještavanja u Republici Hrvatskoj.

Ključne riječi: *integrirano izvještavanje, nefinancijsko izvještavanje, vijeće integriranog izvještavanja, regulatorna tijela, donošenje poslovnih odluka.*

1. Introduction

Over the last decade the business world has undergone major changes. The challenges it faces require quality answers to questions related to asset assessment, but also to ways in which companies create and use capital. Accelerated development of information technology enabled companies to expand their business activities throughout the world, which significantly affected companies' growth and development. On the other hand, this process produced a series of negative effects. One of them was increased business costs, while the other pertained to the need to adjust business activities to local laws and standards. Equally paradoxical is the fact that the adjustment of business activities to local laws and standards significantly slowed down business activities, which often made companies feel inhibited in their progress, while at the same time the setting was quickly moving forward. All of the above prompted regulatory bodies to introduce changes. The changes primarily reflected through harmonization of accounting regulations in order to enable their easier implementation. Also, they sought to find solutions which would provide clear answers to the growing demands set before companies by the entire social community, and which primarily pertained to transparency in reporting. A myriad of required information broke the framework of financial reporting which made it more difficult for companies to present the required information. Modern times made regulatory bodies face new challenges, and one of them pertained to changes within regulatory bodies themselves and in the way in which they follow companies' business activities.

2. International Accounting Standards Committee

The development of accounting standards began with the foundation of regulatory bodies in Europe and the United States of America. Considering the economic and political differences, these standards developed separately although many determinants of accounting deviations were regulated in a similar manner.

In the-then Europe, today's European Union, the development of accounting standards began with the foundation of IASC (International Accounting Standards Committee) in 1973. The Committee was active until 2001, after which IASB (International Accounting Standards Board) started its work, with a seat in London. IASB initiated the development of International Financial Reporting Standards, accounting regulations that are today implemented on global level and its objective is to continuously develop accounting standards aimed at truthful and fair financial reporting. This connotes their harmonization, but also an incessant development which reflects in elimination of accounting procedures that impair truthful and fair reporting. Their global implementation enables companies to easily monitor their business activities and to create related reports regardless of the geographical area. In like manner, it facilitates investment processes, since companies; by implementing global accounting regulations can understand financial reports more easily, regardless of the country in which they do their business or the language they speak.

"IASB represents an independent group of experts of accounting education who, with their knowledge, contribute to the development of accounting standards. Members of the Board are responsible for creation and publishing of the International standards of financial reporting. The Committee is also responsible for the approval of the standards interpretation. Members are appointed by the Commissioner for International standards of financial reporting through open and rigorous process which involves advertising free job positions and consultations with relevant organizations."[1]

"Currently, some 120 countries allow or require implementation of International Financial Reporting Standards for their companies with securities listed on the capital market. Also, some 90 countries fully implement the International Financial Reporting Standards."[2]

Besides IASB very important role in creating an effective financial reporting belongs to FASB. FASB (Financial Accounting Standards Board) is an independent organization founded in the United States of America in 1973 with the aim to develop GAAPs (Generally Accepted Accounting Principles). "SEC (Securities and Exchange Commission) recognizes FASB as an authority in creating accounting standards on basis of which financial reports are prepared. The objective of FASB is to develop accounting standards which will ensure quality of financial information essential to investors and other users."[3]

"Seven FASB members are full-time employees. In order to motivate their independence, they are required to discontinue their connections with companies or institutions with which they had worked prior to their admittance to the Board. Board members receive five-year mandates and can be appointed again for another five-year mandate."[4]

The implementation of various accounting standards in the world greatly diminishes the mentioned benefits given by information consisted in financial reports. Although in the beginning, in the fifties

[1]http://www.ifrs.org/groups/international-accounting-standards-board/#about, accessed [12/03/2018]
[2]http://www.ifrs.com/ifrs_faqs.html#q1, accessed [26/02/2018]
[3]http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176154526495, accessed [23/02/2018]
[4]http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1218220131802, accessed [12/03/2018]

of the 20th century, this problem was tackled by harmonization of accounting systems, at the end of the 1980s, this idea was replaced with the idea of convergence i.e. creating a unique set of high-quality and global accounting standards (Anić-Antić and Konsuo, 2015, 359). The harmonization and convergence process is a long-term process which continues today. In the convergence project, IASB and FASB have the most important role. Although they are primarily focused on financial information, the stated regulatory bodies, through additional requests for publishing, significantly influence non-financial reporting.

3. Global initiative of reporting

Business management has always been connected to financial information. Financial information are exact indicators of business performance. Their usage in business management and decision-making is irreplaceable. Comparably, until recently business performance measured by realized profit was the only criterion for business quality assessment. Today, performance criteria have significantly changed. Financial information is observed as a result of the influence of many factors, and one of them is the relationships which companies develop with all related interest groups. Companies which improve those relationships have a chance to establish long-term success.

Growing awareness of social responsibility results in increasing of the number of social responsibility reports and sustainability reports. Reporting on social responsibility is a task of sustainability accounting which is often perceived as an upgrade of traditional financial accounting although, from scientific point of view, it is often observed through the prism of strategic managerial accounting. This new accounting area aims to measure environmental, social and economic performance of companies and to develop reporting on the said (Rogošić and Bekavac, 2015, 84).

Founding the Global Reporting Initiative in 1997 lead to the creation of G4 Guidelines, which represent an important framework for non-financial reporting directed towards economic, environmental and social matters as well as matters related to employment and dignified work, human rights, society and responsibility for a product.

The basic goal of the Global Reporting Initiative is to harmonize the system of non-financial reporting and to enable usage of standardized, comparable and reliable data on companies' performances (Szejnwald Brown, 2011, 282).

"Global Reporting Initiative was launched in 1997 by CERES (Coalition of Environmentally Aware Economies) and UNEP (United Nations Environment Program) in order to raise the standard of corporate reporting on socially responsible business activities and sustainable development on level of financial reporting, particularly in terms of comparability, timeliness, reliability, credibility, and confidentiality of presented information. Apart from CERES and UNEP, the foundation committee included Deutsche Bank Group, Royal Dutch/Shell, Price Waterhouse Coopers, KPMG, Ford Motor Company, Amnesty International, Greenpeace, Oxfam, Transparency International, UNHCR, and others. This reporting framework was developed in cooperation with corporations, associations, accounting and consulting companies, unions and other stakeholders throughout the world and represents a world framework for reporting on socially responsible behaviour."[5]

G4 Guidelines encompass reporting segments which clearly point out to the quality of management, considering the goals set for the respective business activities. Management oriented not only towards profit but also towards building relationships with related interest groups is significantly advantageous in terms of achieving log-term success.

[5]http://www.dop.hr/?p=662, accessed [08/03/2018]

4. International Integrated Reporting Council

Financial reporting and non-financial reporting develop separately and arrange issues of business reporting in different manners. Although accounting standards encompass both financial reporting and non-financial reporting, still they primarily pertain to clarification of methods and assessments implemented in composing financial information. On the other hand, Global Reporting Initiative provides guidelines for composing non-financial reports comprising information related to economic, environmental and social issues. Although financial and non-financial reports are composed separately, still their mutual influence is unquestionable.

Integrated reporting is a combination of financial and non-financial information intended primarily to external stakeholders. But it is also an efficient tool of managerial supervision because it instigates integrated i.e. holistic thinking, strengthens the company's reputation and its overall success. Research showed that companies which are more transparent in reporting their results through data on economic, environmental, and social aspects of their business activities have greater efficiency measured with financial results (Vitezić and Petrlić, 2017, 203).

The foundation of the International Integrated Reporting Council (IIRC) was the first step towards integration of reporting aimed at connecting financial and non-financial information.

"IIRC was founded in August 2010 and strives to create a globally accepted reporting framework which will comprise information on manners in which an organization creates value. IIRC represents a global coalition made of the scientific and expert public. IIRC's mission is to establish integrated reporting system which would be a reporting standard for both private and public sector. The vision behind building such reporting system is to harmonize distribution of capital and corporate behaviour with wider goals, such as financial stability and sustainable development."[6]

"More than 40 leading companies from the entire world agreed to participate in the Pilot program of integrated reporting. The objective of this program is to develop an integrated reporting system which would indicate how a company creates and maintains value. This program strives to:

- Continuously innovate the integrated reporting system
- Develop quality reports for investors, but for other users as well
- Develop an internationally recognized framework for integrated reporting."[7]

Unified presentation of financial, environmental and social business results, known as the syntagma″social responsibility reporting″ or ″integrated reporting″, has long since become a regular practice of European Union countries. Existing EU directives in this field have had a significant support in the last years in publishing integral guidelines and standards as well, which, along with financial business results, offer the possibility of incorporating non-financial effects particularly related to the effect of business activities on various segments of sustainable development. In Croatia, although insufficiently spread, but present among bigger companies, publishing information on triple result - financial, environmental, and social - is increasingly becoming significant for a company's performance assessment (Miljenović, 2016, 42).

Integrated reporting is not designed to be a compendium of each separate part of information. Instead, it combines financial and non-financial information in one place. Ideally, it also shows

[6]http://integratedreporting.org/the-iirc-2/ accessed [23/02/2018]
[7]http://integratedreporting.org/wp-content/uploads/2011/10/Pilot-programme-26boctober2011cmr.pdf, accessed [24/02/2018]

relationships between material financial and non-financial information indicators (Eclles and Saltzman, 2011, 59).
The goals of the International Integrated Reporting Council imply joint work of many professional organizations, each of which would, in its own area of responsibility, give significant contribution to the development of integrated reporting. Benefits enjoyed by related interest groups would pertain to simpler usage and interpretation of information, while the primary benefit for the company composing an integrated report would reflect in simpler composing and presentation of the report.

International Integrated Reporting Council, in cooperation with the scientific and expert public promotes the idea of integrated reporting on international level, which would make integrated reporting system more transparent and simpler.

"International Integrated Reporting Council is composed of the following bodies:

- Management which is responsible for operational and business activities
- Council which combines various aspects and interests and interactively advises on various issues important to the organization.
- Ambassadors who try to support IIRC's mission and work by assisting in the promotion of the organization's goals
- Main team which implements initiatives and activities of the organization
- Management Board and Nomination Committee, which monitor organizational measures and implementation practices
- Associates advocating for integrated reporting. The associates are well connected and active in motivating adoption of integrated reporting."[8]

All bodies of International Integrated Reporting Council aim to promote integrated, financial and non-financial reporting in order to build a more quality integrated reporting system, which would enable making quality business decisions.

5. Regulatory bodies and external reporting in the Republic of Croatia

The normative framework of reporting for external users in the Republic of Croatia is defined by the Accounting Act and other related legal acts. Expert working groups participate in the preparation of the legal acts i.e. representatives of relevant professional and regulatory bodies competent for certain line of business; these are, for example: The Croatian Financial Services Supervisory Agency (HANFA), the Croatian National Bank (HNB), the Committee for Financial Reporting Standards (OSFI) etc.

The practice of reporting for external users has been so far based exclusively on mandatory, legally regulated financial reporting. In that context, OSFI plays particularly importantrole. OSFI set up the Croatian Financial Reporting Standards and takes part in creating the contents and the structure of financial reports for public procurement. It also follows news in accounting regulations, particularly in the part pertaining to the EU and International Financial Reporting Standards with the aim to enhance and increase the comparability of Croatian accounting practice with international accounting solutions. The Committee consists of 9 members, experts from the field of finances,

[8]https://integratedreporting.org/the-iirc-2/structure-of-the-iirc/ accessed [02/03/2018]

accounting and auditing, and their mandate is 5 years. The fact that Committee members are appointed by the Government of the Republic of Croatia speaks sufficiently about the importance of OSFI for the Croatian accounting system.[9]

Lately, apart from paying attention to financial information, business environment in Croatia has started to pay more attention to non-financial information. Considering the significance of those information, their presentation is now legally required. Pursuant to the requirements set in EU Directive 2014/95 of the European Parliament and the Council, since January 1st, 2017 Act on Accounting introduced the obligation of creating non-financial reports for major entrepreneurs of public interest who employ more than 500 workers[10].The Act also states that when composing a non-financial report the entrepreneur can rely on national framework, the European Union framework, international frameworks or non-obligatory guidelines on methodology of submitting reports on non-financial information (reporting guidelines) which are published by the European Union.[11]

In order to make non-financial report comparable, they need to be composed in line with a certain, pre-determined methodology that needs to be implemented consistently. Since it is generally known that structural information presented in standardized form increase the quality and usability of information, it can be expected in near future non-financial information to be also presented in a certain standardized form i.e. in the form of an integrated financial and non-financial report. In that context, Croatian regulatory bodies need to contribute by taking into account relevant international guidelines in creating national solutions.

6. Conclusion

Integrated reporting is an imperative which has no alternative. Without integration of financial information and non-financial information, company reporting is going to become more complex, and the usage of information rendered more difficult. The role of regulatory bodies in integration of reports will be of crucial importance. It will be reflected through the development of integrated reporting standards which would include accounting standards, but also G4 Guidelines, the latter pertaining to non-financial reporting. Reporting integration which would offer in one place standards of both financial and non-financial reporting would provide companies with a framework for composing an integrated report on basis of clear reporting guidelines and standards. This would enable companies to render clear and viewable reporting, while users would get in one place all necessary information for quality decision-making. In the context of the realization of that goal, especially important role is played by relevant international and national regulatory bodies which on behalf of external users need to find adequate reporting solutions that would, both by content and form, contribute to the quality of the information basis for business decision-making.

REFERENCES

Anić-Antić, P., Konsuo, D.: ***The importance of convergence between US GAAP and MSFI for rating companies***; Economic overview, 66 (4), 2015;

[9]Act on Accounting, Official Gazette 78/15, Art. 18.

[10]Act on Amendments and Modifications to the Act on Accounting, Official Gazette 120/16, Art. 21a. and http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095&qid=1520113935674&from=HR, accessed [03/03/2018]

[11] Act on Amendments and Modifications to the Act on Accounting, Official Gazette 120/16, Art. 21a.

Eclles, R. G., Saltzman, D.: (2011) ***Achieving sustainability through integrated reporting***, Stanford Social Innovation Review, 2011;

Miljenović, D.: ***Guidelines and standards of non-financial reporting***, RRiF, No. 5/2016, 2016;
Rogošić, A., Bekavac, J.: ***Report on social responsibility according to GRI Guidelines, Practical management***, Vol. VI., No. 1, 2015;

Szejnwald Brown, H. :***Global Reporting Initiative, Handbook of Transnational Governance***, Polity Press, Cambridge, 2011;

Vitezić, N., Petrlić, A.: ***Integrated reporting - concept and impact on Croatian companies performance***, Accounting and Management - RiM, 18th International and Expert Conference, 2017;
http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095&qid=1520113935674&from=HR, (accessed on the 3th March 2018)

http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176154526495, (accessed on the 23th February 2018)

http://integratedreporting.org/the-iirc-2/(accessed on the 23th February 2018)
http://integratedreporting.org/wp-content/uploads/2011/10/Pilot-programme-26boctober2011cmr.pdf, (accessed on the 24th February 2018)

https://integratedreporting.org/the-iirc-2/structure-of-the-iirc/(accessed on the 2th March 2018)
http://www.dop.hr/?p=662, (accessed on the 8th March 2018)

http://www.ifrs.org/groups/international-accounting-standards-board/#about, (accessed on the 12th March 2018)

http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1218220131802, (accessed on the 12th March 2018)

International Financial reporting Standards, http://www.ifrs.com/ifrs_faqs.html#q1, (accessed on the 26th February 2018)

Assoc. Prof. Silvia Trifonova, PhD
Chairperson of the Faculty of Finance and Accounting
Department of Finance
University of National and World Economy (UNWE)
Sofia, Bulgaria
Email: trifonovasilvia@yahoo.com

EFFECTS FROM THE ECB'S UNCONVENTIONAL MONETARY POLICY MEASURES ON THE LONG-TERM GOVERNMENT BOND YIELDS IN BULGARIA, CROATIA AND ROMANIA

UČINCI NEKONVENCIONALNIH MJERA MONETARNE POLITIKE EUROPSKE SREDIŠNJE BANKE NA PRINOSE DUGOROČNIH DRŽAVNIH OBVEZNICA U BUGARSKOJ, HRVATSKOJ I RUMUNJSKOJ

ABSTRACT

Unconventional monetary policy measures have become an important part of the leading central banks' toolkit as a result of the global financial crisis of 2008-2009. By using unconventional monetary policy measures, central banks are aiming to revive specific market segments, whose normal functioning is disturbed during the crisis, and to strengthen bank lending, financial intermediation and the economic growth. The main purpose of the paper is to analyze the effects from the unconventional monetary policy measures implemented by the European Central Bank (ECB) on three non-euro area member states of the European Union (EU) – Bulgaria, Croatia and Romania. The research is focused on the effects from the ECB's interest rate policy on the long-term government bond yields of those three countries. With this regard, the interest rate channel of the monetary policy transmission mechanism is empirically assessed and tested. The econometric study covers the period from January 2010 to December 2016, by using monthly data. The research methodology includes theoretical and methodological study, econometric analysis, comparative study and critical analysis.

Key words: *Unconventional monetary policy; European Central Bank; Bulgaria; Croatia; Romania; long-term government bond yields; interest rate transmission channel.*

SAŽETAK

Nekonvencionalne mjere monetarne politike postale su važan dio u lepezi alata vodećih središnjih banaka, kao rezultat globalne financijske krize iz 2008. i 2009. Korištenjem nekonvencionalnih mjera monetarne politike središnje banke ciljaju na oživljavanje specifičnih segmenata tržišta čije je normalno djelovanje poremećeno tijekom krize, i na jačanje kreditiranja banaka, financijskog posredovanja i ekonomskog rasta. Glavni cilj ovog rada je analizirati učinke nekonvencionalnih mjera monetarne politike provedenih od Europske Središnje Banke (ECB) na tri zemlje članice Europske Unije (EU) izvan euro-zone - Bugarsku, Hrvatsku i Rumunjsku. Istraživanje stavlja u žarište učinke politike kamatnih stopa ECB-a na prinose dugoročnih državnih obveznica tih triju država. S tim na umu, kanal kamatnih stopa u sklopu mehanizma prijenosa monetarne politike empirijski se procjenjuje i testira. Ova ekonometrijska studija pokriva razdoblje od siječnja 2010. do prosinca 2016., koristeći mjesečne podatke. Istraživačka metodologija uključuje teorijsku i metodološku studiju, ekonometrijsku analizu, komparativnu studiju i kritičku analizu.

Ključne riječi: *Nekonvencionalna monetarna politika; Europska Središnja Banka; Bugarska; Hrvatska; Rumunjska; prinosi dugoročnih državnih obveznica; kanal za prijenos kamatnih stopa.*

Introduction

As a response to the severe deterioration in global financial markets the world's leading central banks have implemented series of unconventional monetary policy measures. Those measures are non-conventional regarding the instruments, which they use, and the operating goals, which they want to achieve. The object of the current research is the unconventional monetary policy of the ECB. In early August 2011 the ECB announced a number of non-standard monetary policy measures. In many respects, the situation was comparable to that observed in the first phase of the sovereign debt crisis in early May 2010. Low euro area inflation was the main reason behind the implementation of the series of non-conventional measures of the ECB.

These unconventional monetary measures were intended to revive the specific market segments whose normal functioning was disturbed during the crisis, and to encourage bank lending, financial intermediation and economic growth in the euro area. Since they impact the selected indicators through various channels, they have divergent effects by size and time on the cost of financial instruments.

The current paper is aimed to analyze and assess the effects from the ECB's key interest rate changes on the long-term government bond yields of three non-euro area member states of the EU – Bulgaria, Croatia and Romania. The econometric study covers the period from January 2010 to December 2016, by using monthly data. The research methodology includes theoretical and methodological study, econometric analysis, comparative study and critical analysis.

The actuality of the topic about the effects from the ECB's unconventional monetary policy and its contribution for overcoming the economic crisis and financial imbalances is undoubted. Numerous international scientific forums, conferences and publications are devoted to the non-standard monetary policy. Furthermore, the ECB is still keeping such unconventional stance. The questions, related to the contemporary role of the monetary policy, became even more important for the financial and economic development of Bulgaria and the other countries in the CEE region, regarding the negative impact, which the global financial crisis has had on their economies, and their perspectives for joining the euro area[1].

1. ECB's unconventional monetary policy measures

Unconventional monetary policy measures have become an important part of the ECB's toolkit as a result of the global recession. In the early stages of the recession, those measures were aimed at preventing a collapse of the financial system, and then – at strengthening the financial intermediation and providing an additional adjustment policy with interest rates close to zero and even below zero[2]. The ECB took steps to alleviate the weaknesses caused to financial intermediation after the crisis, reducing the cost of financing for banks and non-financial corporations in order to enhance loans to businesses and households, investments and entrepreneurial activity in the euro area.

The unusual measures, known as quantitative easing (or QE), include unprecedented support for the money markets, special credit programs, large-scale asset purchases and preliminary guidance on the monetary policy path. In fact, the interest rates as a key policy instrument, went down to zero faster than expected, thus limiting the potential of traditional monetary policy. Against the backdrop

---

[1] Trifonova, S., Trifonova, V., Atanassov, At., Kolev, Sv., *The Unconventional Monetary Policy of the World's Leading Central Banks and its Effects on Developed and Developing Countries, including Bulgaria,* collective monograph, Eudaimonia Production, Sofia, 2017.

[2] Lambert, F., and K. Ueda, "The Effects of Unconventional Monetary Policies on Bank Soundness", *IMF Working Paper,* WP/14/152, International Monetary Fund, Washington D.C., August 2014, p. 3.

of the downturn in the real economy and the deflationary risks, the short-term interest rates became negative. That's why the ECB has become in a position to no longer be able to rely on its key policy tool – the short-term interest rate – to loosen monetary conditions and to provide support for demand. The lowering of nominal interest rates into a negative territory became popular as a Zero interest rate policy (or ZIRP).

The ECB and the other world's leading central banks stepped up with more clear forward guidance about the monetary policy path and asset purchases. The purpose of asset purchases is to lower the interest rates on long-term bonds and to loosen credit conditions. Forward guidance is aimed to signal potential policy change, regarding the maintaining of the low interest rates over a longer period than would otherwise be in line with the usual central bank response functions[3]. Bond purchases aimed at reducing the amount of long-term bonds in investors' portfolios are driving them to accept a lower rate of return than holding more scarce assets.

The monetary policy instruments implemented by the ECB are non-standard in terms of their scale and scope, providing liquidity in unprecedented quantity, to a much wider range of recipients and with a broader goal, namely to support the functioning of the markets[4]. In particular, the Covered Bonds Purchase Programme (CBPP) was launched by the ECB in May 2009, the Securities Markets Programme (SME) – in May 2010, the Outright Monetary Transactions (OMT) – in August 2012, the first phase of the Targeted Longer-Term Refinancing Operations (TLTROs I) – in September 2014 and its second phase (TLTROs II) – in March 2016. In December 2011 when the euro area debt crisis deepened and the conditions for bank financing deteriorated, the ECB announced the introduction of two very long-term refinancing operations with 3-year maturity[5].

In early March 2015, the ECB launched the Public Sector Purchase Programme (PSPP), which was extended with additional measures in January 2016, thus resulting in the Expanded Asset Purchase Programme (EAPP), comprising also the Corporate Sector Purchase Programme (CSPP). Thus, the ECB's expanded asset purchase programme amounted of around €1.1 trillion, encompasses existing programmes for asset-backed securities and covered bonds, but also includes additional purchases of bonds issued by euro area central governments, agencies and European institutions. Since 1 April 2016, the ECB's monthly purchases have been increased from €60 billion to €80 billion, and they may be conducted until the headline inflation is in line with the ECB's medium-term target of below but close to 2%[6]. The PSPP, popularly referred to as QE, together with the programme of targeted liquidity provision and the programme of private sector asset purchases, marked a new phase of the ECB's unconventional monetary policy[7].

---

[3] Borio, C., Disyatat, P., "Unconventional monetary policies: an appraisal", *BIS Working Paper*, No. 292*,* Bank for International Settlements, Basel, Switzerland, 2009.

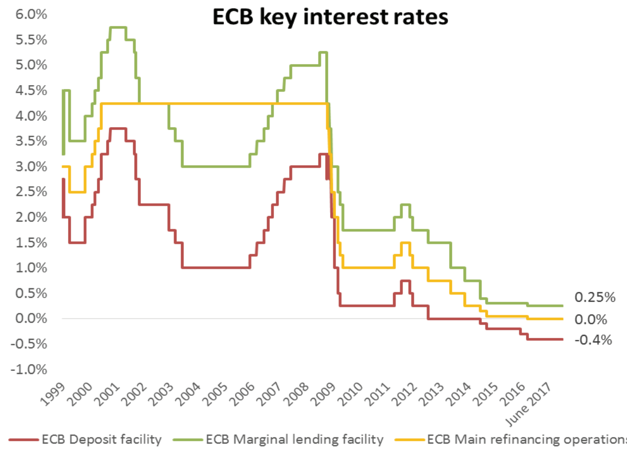
[4] ECB, "The ECB's asset purchase programme: an early assessment", *ECB Working paper*, No. 1956, European Central Bank, Frankfurt am Main, Germany, 2016, p. 9.

[5] Fratzscher, M., Duca, M.L., Straub, R., "ECB Unconventional Monetary Policy Actions: Market Impact, International Spillovers and Transmission Channels", 15th Jacque Polak Annual Research Conference, IMF, Washington, D.C., USA, November 13-14, 2014, p. 5.

[6] BIS, "International Banking and Financial Market Developments", *BIS Quarterly Review*, Bank for International Settlements, Basel, Switzerland, March 2015, p. 7.

[7] Constâncio, V., "Assessing the new phase of unconventional monetary policy at the ECB", Panel remarks prepared at the Annual Congress of the European Economic Association, University of Manheim, 25 August 2015.

***Graph 1** ECB key interst rates*



Source: ECB

In a large extent the non-standard monetary policy measures achieved their internal objectives and were especially effective during the global financial crisis[8]. As a whole the functioning of the financial markets was restored, and the tail risks decreased significantly. There was a favorable impact on economic growth and price stability, although the evidence about this isn't so clear, given the long lags and the fact that the unconventional measures are still in place. The unconventional monetary measures of the ECB have different effect on the rest of the world. They have been spreading in different countries and on different markets and acting with a different continuance on the back of various challenges and economic conditions[9]. Looking forward, in the foreseeable future the ECB can continue its unconventional monetary policy stance if the economic circumstances do not change or worse – if they deteriorate. This necessitates the need of further understanding the effects from the ECB's unconventional monetary policy measures.

2. Effects from the ecb's interest rate policy on the long-term government bond yields in Bulgaria, Croatia and Romania

This section is dedicated to the empirical analysis of the effects from the ECB's interest rate policy on the long-term government bond yields in Bulgaria, Croatia and Romania. The observed period spreads from January 2010 to December 2016. In this section econometric models for each of those three no-euro area EU member states are generated by using monthly data (at end of each month).

2.1. Bulgaria

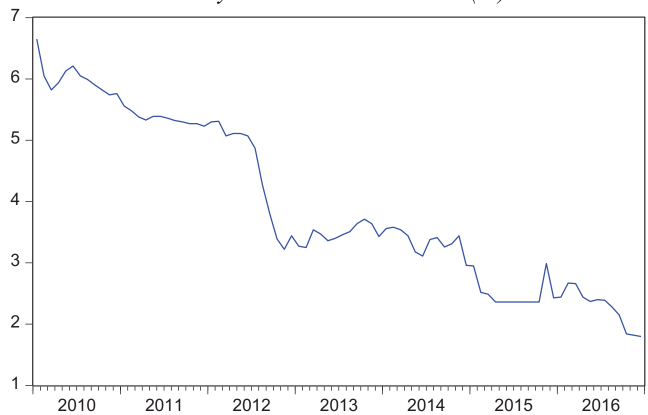
Developments of the interest rate on the long-term (10-year) Bulgarian government bonds during the period January 2010 – December 2016 demonstrate that the highest interest rate level was recorded in 2010 – around 6% (Graph 2). Gradually, the yield on Bulgarian long-term treasury securities declined during 2011. From July to October 2012 it sharply decreased to reach 3.2% at the end of October 2012. The lowest interest rate on the long-term government bonds in Bulgaria

[8] Trifonova, V., *The ECB's Unconventional Monetary Policy in the Condition of Macroeconomic Imbalances*, Collection of Reports from the National Conference of Economics Department, UNWE, on Economic Challenges: Growth, Imbalances, Sustainable Development, November 6, 2015, UNWE, Sofia, 2016, p. 177.

[9] IMF, "Global Impact and Challenges of Unconventional Monetary Policies", *IMF Policy Papers*, International Monetary Fund, Washington D.C., October 7, 2013.

was observed at the end of December 2016 - 1.8%. The fall in yield on Bulgarian treasury bonds during 2015 and 2016 was experienced in a dynamic environment in the international financial markets – the post-crisis period after the 2008-2009 global financial crisis, the euro area debt crisis in 2012 and the start of the ECB's unconventional monetary policy measures.

***Graph 2** Interest rate on long-term Bulgarian government bonds, January 2010 – December 2016 (%)*



Source: BNB; authors' calculations.

Overall, the Bulgarian government bond yield clearly followed a straightforward trend of development, gradually decreasing during the period 2010-2016. To confirm this view, a linear econometric model is constructed for the relationship between the interest rate on the Bulgarian long-term government bonds (shown as the dependent variable Y_t) and the time t:

$$Y_t = \beta_0 + \beta_1 t + \varepsilon_t .$$

The Least Squares Method (LSM) is used and 84 observations are made. The obtained results are presented at Table 1.

Table 1

Dependent Variable: BULGARIA_BONDS
Method: Least Squares
Date: 05/21/17 Time: 18:47
Sample: 2010M01 2016M12
Included observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.206836	0.083601	74.24367	0.0000
T	-0.053797	0.001709	-31.48632	0.0000

R-squared	0.923606	Mean dependent var	3.920476
Adjusted R-squared	0.922675	S.D. dependent var	1.365434
S.E. of regression	0.379692	Akaike info criterion	0.924608
Sum squared resid	11.82160	Schwarz criterion	0.982484
Log likelihood	-36.83352	Hannan-Quinn criter.	0.947874
F-statistic	991.3886	Durbin-Watson stat	0.257096
Prob(F-statistic)	0.000000		

Source: Author

The estimated model has the following analytical view: $\widehat{Y}_t = 6{,}2 - 0{,}05.t$

The obtained results demonstrate that the interest rate on long-term government securities in Bulgaria decreased on average each month by 0,053797 percentage points (p.p.) for the period from January 2010 to December 2016, which makes an average annual decrease of 0,65 p.p.

On the next stage, the dynamics of the Base Interest Rate (BIR) in Bulgaria is examined, again using monthly data (at the end of each month) for the period January 2010 – December 2016 (Graph 3). A clear downward trend of BIR in Bulgaria was observed in the first half of 2010. The second significant drop has been observed since mid-2012 when the base interest rate declined below 0.1%. Since February 2016 the BIR in Bulgaria has even reached a level of 0%.

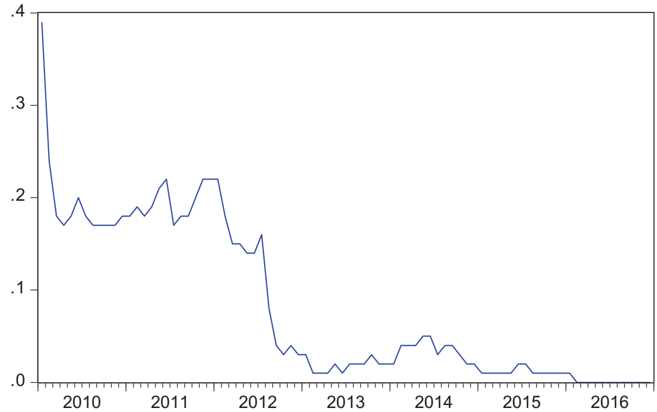
The role of the base interest rate in Bulgaria is rather secondary. Before the introduction of the currency board arrangement on 1 July 1997, the Bulgarian National Bank (BNB) has conducted a discretionary monetary policy, where the BIR was a key policy instrument. After the introduction of the currency board, the BNB's monetary policy instruments were severely limited. During the period July 1997 – January 2005, the BIR methodology was initially based on the yield on the very short-term discount treasury bills (with 7- and 14-days maturity) on the primary market in Bulgaria.

Since 1 February 2005 the base interest rate has been based on the level of the interest rate on the interbank money market in Bulgaria – so-called index LEONIA Plus (LEv OverNight Interest Average Plus). LEONIA Plus is a reference rate of concluded and effected unsecured overnight deposit transactions in domestic currency (Bulgarian levs or BGN) in the interbank market in Bulgaria. The statistics of the interest rates is based on a harmonized methodology for the euro area countries specified in Regulation (EC) № 63/2002 of the ECB of 20 December 2001 (ECB/2001/18)[10].

And now the BIR is determined by the BNB Governing Council, but the indicator, apart from its reference and analytical value, has a very limited application, especially after Bulgaria's accession to the EU in 2007 and the harmonization of the BNB's activity with the ECB. Moreover, according to the methodology for its calculation, the BIR in Bulgaria cannot have negative values. The BIR for the current month equals the simple average of the values of the index LEONIA Plus for the business days of the preceding calendar month, and when this simple average amounts to a value less than zero, the BIR is set to a value equal to zero.

[10] Regulation (EC) No 63/2002 of the European Central bank of 20 December 2001 concerning statistics on interest rates applied by monetary financial institutions to deposits and loans vis-à-vis households and non-financial corporations (ECB/2001/18).

Graph 3 *Base interest rate in Bulgaria, January 2010 – December 2016 (%)*



Source: BNB; authors' calculations.

In order to describe the trend of the base interest rate in Bulgaria, a linear model is used again, the relationship being represented as follows: $X_t = \beta_0 + \beta_1 t + \varepsilon_t$, where X_t - the BIR, and t - the time. The model is assessed again by using the LSM with 84 included observations and the obtained results are shown at Table 2.

Table 2

Dependent Variable: BULGARIA_IR
Method: Least Squares
Date: 05/19/17 Time: 17:07
Sample: 2010M01 2016M12
Included observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.214455	0.009836	21.80271	0.0000
T	-0.003116	0.000201	-15.50075	0.0000

R-squared	0.745558	Mean dependent var	0.082024
Adjusted R-squared	0.742455	S.D. dependent var	0.088028
S.E. of regression	0.044673	Akaike info criterion	-3.355370
Sum squared resid	0.163646	Schwarz criterion	-3.297493
Log likelihood	142.9255	Hannan-Quinn criter.	-3.332104
F-statistic	240.2734	Durbin-Watson stat	0.266889
Prob(F-statistic)	0.000000		

Source: Author

The estimated model has the following analytical view: $\widehat{X}_t = 0{,}4 - 0{,}003116.t$. From the obtained results can be concluded that the base interest rate in Bulgaria declines on average each month by 0,003116 p.p. for the period from January 2010 to December 2016, which makes an average annual decrease of 0,03739 p.p.

In order to examine the relationship between the interest rate on long-term government securities of the Bulgarian government and the base interest rate, the **correlation coefficient** is used. The calculated correlation coefficient is the following:

$$r = \frac{\sum_{i=1}^{n}(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^{n}(X_i - \bar{X})^2 \sum_{i=1}^{n}(Y_i - \bar{Y})^2}} = 0{,}932$$

As it is known from the statistical literature, when using the correlation analysis to study relationships between time series, the so-called "false correlation" can arise. This phenomenon arises from the fact that the two examined time series may have a similar trend of development and in practice, a third side factor may have an effect on the Bulgarian government bond yield and on the base interest rate, but between those time series there may not exist as strong link as the correlation coefficient shows[11].

To avoid the occurrence of a false correlation, the time will be included as an additional factor in the econometric model for the relationship between the BIR and the interest rate on the long-term bonds of the Bulgarian government. Thus, an econometric model with the following analytical view is constructed:

$$Y_t = \beta_0 + \beta_1 X_t + \beta_2 t + \varepsilon_t \,.$$

The model is assessed again by using the LSM and the obtained results are shown at Table 3.

Table 3

Dependent Variable: BULGARIA_BONDS
Method: Least Squares
Date: 05/19/17 Time: 17:12
Sample: 2010M01 2016M12
Included observations: 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.870259	0.149106	32.66311	0.0000
BULGARIA_IR	6.232436	0.642099	9.706353	0.0000
T	-0.034376	0.002317	-14.83530	0.0000

R-squared	0.964684	Mean dependent var	3.920476
Adjusted R-squared	0.963812	S.D. dependent var	1.365434
S.E. of regression	0.259749	Akaike info criterion	0.176862
Sum squared resid	5.465051	Schwarz criterion	0.263677
Log likelihood	-4.428218	Hannan-Quinn criter.	0.211761
F-statistic	1106.280	Durbin-Watson stat	0.528263
Prob(F-statistic)	0.000000		

Source: Author

The following conclusions can be drawn from the obtained results:

First, the constructed econometric model is adequate as it is confirmed by the F-test - $\mathrm{Prob}(\mathrm{F-statistic}) < \alpha$, where $\alpha = 0{,}05$.

Second, the model has a very high explanatory power - $R^2 = 0{,}96$, so that 96% of the changes in the Bulgarian government bond yield can be explained by the changes in the two factors – the base interest rate and the time.

Third, it can be said that each of both factors have a statistically significant impact since the level of significance (prob.) is much lower than the assumed risk of error α.

[11] Velichkova, N., *Statistical methods for studying and forecasting the development of socio-economic phenomena*, „Science and art" Publishing House, Sofia, 1981 [In Bulgarian original]; Mishev, G., Goev, V., *Statistical analysis of time series*, „Avangard Prima" Publishing House, Sofia, 2010 [In Bulgarian original].

A test for a serial autocorrelation has also been made. It demonstrates whether an autocorrelation exists in the residual component ε_t. This is done by calculating the autocorrelation coefficients and constructing the autocorrelogram of ε_t. The obtained results are shown in Figure 1.

***Figure 1** Autocorrelogram of the residual component* ε_t

Date: 05/19/17 Time: 17:15
Sample: 2010M01 2016M12
Included observations: 84

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.698	0.698	42.409	0.000
		2	0.480	-0.01...	62.741	0.000
		3	0.299	-0.06...	70.732	0.000
		4	0.078	-0.20...	71.286	0.000
		5	-0.14...	-0.21...	73.204	0.000
		6	-0.23...	0.019	78.187	0.000
		7	-0.31...	-0.10...	87.652	0.000
		8	-0.36...	-0.07...	100.48	0.000
		9	-0.35...	-0.04...	112.37	0.000
		1...	-0.27...	0.010	119.81	0.000
		1...	-0.31...	-0.24...	129.32	0.000
		1...	-0.21...	0.058	134.15	0.000

Source: Author

As can be seen from Figure 1, the first autocorrelation coefficient has a high value $r_1 = 0.698$ and it is a statistically significant (its prob. is lower than α). As a result, there is a serial autocorrelation in the constructed econometric model and it should be cleared by using the Cochrane-Orcutt estimation procedure. This estimation adjusts a linear model for serial correlation in the error term. The method used is ARMA Generalized Least Squares (Gauss-Newton). The results obtained from the Cochrane-Orcutt procedure are shown at Table 4.

Table 4

Dependent Variable: BULGARIA_BONDS
Method: ARMA Generalized Least Squares (Gauss-Newton)
Date: 05/21/17 Time: 18:51
Sample: 2010M01 2016M12
Included observations: 84
Convergence achieved after 8 iterations
Coefficient covariance computed using outer product of gradients
d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.388083	0.258881	20.81300	0.0000
BULGARIA_IR	3.709416	0.808293	4.589198	0.0000
T	-0.041934	0.004435	-9.454457	0.0000
AR(1)	0.806398	0.067933	11.87049	0.0000

R-squared	0.985160	Mean dependent var	3.920476
Adjusted R-squared	0.984604	S.D. dependent var	1.365434
S.E. of regression	0.169424	Akaike info criterion	-0.653869
Sum squared resid	2.296361	Schwarz criterion	-0.538115
Log likelihood	31.46248	Hannan-Quinn criter.	-0.607337
F-statistic	1770.333	Durbin-Watson stat	1.930811
Prob(F-statistic)	0.000000		

Source: Author

The final results obtained from the constructed econometric model for Bulgaria show that the model is adequate – F-test–Prob (F-statistic) < α, where α = 0,05. The model has a very high explanatory power - $R^2 = 0{,}985$, thus meaning that 98,5% of the Bulgarian government bond yield changes can be explained by the changes in the two factors. In addition, both factors have a statistically significant impact since the level of significance (prob.) is lower than the assumed risk of error α. The assessed econometric model for Bulgaria has the following analytical view:

$$\widehat{Y}_t = 5{,}39 + 3{,}7.X_t - 0{,}04.t + 0{,}8.\varepsilon_{t-1}$$

Since the parameters before the two factors can be considered as statistically significant, they can be interpreted. From the obtained results, the following two conclusions for Bulgaria can be made:

1. By increasing the base interest rate in Bulgaria by 0,1 p.p. the yield on the long-term bonds, issued by the Bulgarian government, *ceteris paribus*, will rise by 0,37 p.p.
2. At fixed levels of the base interest rate each month the interest rate on the 10-year bonds of the Bulgarian government is expected to decrease by 0,04 p.p. In order to ensure the quality of the obtained results, the model will be tested for the presence of autocorrelation in the residuals as well as for the type of residuals distribution.

As can be seen from Figure 2, the autocorrelation coefficients in the residual component have low values and they are not statistically significant. The conducted tests confirm the assumption made that the constructed econometric model for Bulgaria is correct and the results are credible.

***Figure 2** Autocorrelogram of the residual component* ε_t

Date: 05/19/17 Time: 17:22
Sample: 2010M01 2016M12
Included observations: 84
Q-statistic probabilities adjusted for 1 ARMA term

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob...
		1	0.033	0.033	0.0937	
		2	0.037	0.036	0.2158	0.642
		3	0.150	0.148	2.2278	0.328
		4	0.054	0.045	2.4886	0.477
		5	-0.18...	-0.20...	5.5878	0.232
		6	-0.03...	-0.05...	5.7317	0.333
		7	-0.10...	-0.10...	6.7128	0.348
		8	-0.12...	-0.06...	8.2343	0.312
		9	-0.14...	-0.10...	10.214	0.250
		1...	0.134	0.160	11.973	0.215
		1...	-0.27...	-0.27...	19.406	0.035
		1...	0.019	0.044	19.441	0.054

Source: Author

2.2. Croatia

The study continues with a constructed econometric model for assessing the impact of the ECB's interest rate policy on the Croatian long-term government bond yield. Croatia is a member of the EU since 1 July 2013. The interest rate on the long-term treasury securities issued by the Croatian government is presented as the dependent variable Y_t, while the two factors are: X_t - EONIA (Euro OverNight Index Average) and t - the time. EONIA is used as the euro area reference overnight rate. The developed model for Croatia is the following:

$$Y_t = \beta_0 + \beta_1 X_t + \beta_2 t + \varepsilon_t + \varepsilon_{t-1} + \varepsilon_{t-2}$$

The model is assessed by using the LSM with 84 included observations and the obtained results are shown at Table 5.

Table 5

Dependent Variable: CROATIA_BONDS
Method: ARMA Generalized Least Squares (Gauss-Newton)
Date: 05/21/17 Time: 00:29
Sample: 2010M01 2016M12
Included observations: 84
Convergence achieved after 14 iterations
Coefficient covariance computed using outer product of gradients
d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.685129	0.531525	12.57726	0.0000
EU_EONIA	0.192076	0.381282	0.503763	0.6158
T	-0.042687	0.010200	-4.184951	0.0001
AR(1)	1.167629	0.110585	10.55866	0.0000
AR(2)	-0.269587	0.109158	-2.469699	0.0157

R-squared	0.966101	Mean dependent var	4.960238
Adjusted R-squared	0.964385	S.D. dependent var	1.348881
S.E. of regression	0.254560	Akaike info criterion	0.183175
Sum squared resid	5.119273	Schwarz criterion	0.327867
Log likelihood	-2.693368	Hannan-Quinn criter.	0.241340
F-statistic	562.8683	Durbin-Watson stat	2.030212
Prob(F-statistic)	0.000000		

Source: Author

The following conclusions can be drawn from the obtained results for Croatia. First, it can be assumed that the constructed econometric model is adequate. This is confirmed by the F-test – Prob (F-statistic) < α, where $\alpha = 0,05$. Second, the model has a very high explanatory power - $R^2 = 0,97$. As a result, 97% of the Croatian government bond yield changes can be explained by changes in the two factors – the EONIA and the time. Third, it can be said that the time has a statistically significant impact since the level of significance (prob.) is quite lower than the assumed risk of error α, but the EONIA has no impact.

***Figure 3** Autocorrelogram of the residual component ε_t*

Date: 05/21/17 Time: 00:29
Sample: 2010M01 2016M12
Included observations: 84
Q-statistic probabilities adjusted for 2 ARMA terms

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob...
		1	-0.02...	-0.02...	0.0537	
		2	-0.03...	-0.04...	0.1880	
		3	0.159	0.157	2.4351	0.119
		4	-0.00...	-0.00...	2.4386	0.295
		5	0.031	0.044	2.5268	0.470
		6	-0.01...	-0.03...	2.5435	0.637
		7	0.006	0.009	2.5464	0.769
		8	-0.00...	-0.02...	2.5520	0.863
		9	-0.12...	-0.11...	3.9663	0.784
		1...	-0.19...	-0.21...	7.8054	0.453
		1...	0.073	0.062	8.3360	0.501
		1...	-0.09...	-0.07...	9.1668	0.516

Source: Author

The next step is to test for a presence of a serial autocorrelation in the residual component ε_t. The autocorrelation coefficients are calculated and the autocorrelogram of ε_t is constructed (Figure 3).

This figure demonstrates that the autocorrelation coefficients have small values and are not statistically significant. Since one of the parameters before the factors can be considered statistically significant, it can be interpreted. From the obtained results, the following two conclusions can be made for Croatia:

1. The levels of EONIA did not have a statically significant impact on the yield on the Croatian long-term government bonds.
2. At fixed rates of EONIA each month the interest rate on the long-term debt securities of the Croatian government is expected to decrease by 0,042687 p.p.

2.3. Romania

The third analyzed country in the current paper is Romania, which joined the EU on 1 January 2007 together with Bulgaria. Here an econometric model for Romania is constructed in order to assess the impact of the ECB's interest rate policy on the long-term treasury securities issued by the Romanian government. The Romanian long-term government bond yield is presented as the dependent variable Y_t, while the two factors are: X_t - EONIA; t - time. The econometric model is the following:

$$Y_t = \beta_0 + \beta_1 X_t + \beta_2 t + \varepsilon_t + \varepsilon_{t-1} + \varepsilon_{t-2}.$$

The econometric model is assessed by the LSM with 84 included observations and the obtained results are demonstrated at Table 6.

Table 6

Dependent Variable: ROMANIA_BONDS
Method: ARMA Generalized Least Squares (Gauss-Newton)
Sample: 2010M01 2016M12
Included observations: 84
Convergence achieved after 11 iterations
Coefficient covariance computed using outer product of gradients
d.f. adjustment for standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.398432	0.422345	19.88526	0.0000
EU_EONIA	-0.119665	0.383730	-0.311847	0.7560
T	-0.067108	0.008111	-8.274133	0.0000
AR(1)	1.181392	0.110215	10.71902	0.0000
AR(2)	-0.344058	0.110606	-3.110651	0.0026

R-squared	0.975566	Mean dependent var	5.430595
Adjusted R-squared	0.974328	S.D. dependent var	1.651617
S.E. of regression	0.264628	Akaike info criterion	0.257330
Sum squared resid	5.532231	Schwarz criterion	0.402022
Log likelihood	-5.807861	Hannan-Quinn criter.	0.315495
F-statistic	788.5335	Durbin-Watson stat	2.198622
Prob(F-statistic)	0.000000		

Source: Author

The following conclusions can be drawn from the obtained results for Romania: First, the developed econometric model is adequate. This is confirmed by F-test–Prob (F-statistic) < α, where $\alpha = 0{,}05$. Second, the model has a very high explanatory power - $R^2 = 0{,}97$. This means that 97% of the interest rate changes of the long-term securities issued by the Romanian government can be explained by changes in the two factors – the EONIA and the time. Third, time has a statistically significant impact since the level of significance (prob.) is quite lower than the assumed risk of error α, but the EONIA has no impact.

On the next stage, a test for a serial autocorrelation in the residual component ε_t is made. The results are presented at the constructed autocorrelogram of ε_t in Figure 4.

Figure 4 *Autocorrelogram of the residual component* ε_t

Date: 05/21/17 Time: 00:21
Sample: 2010M01 2016M12
Included observations: 84
Q-statistic probabilities adjusted for 2 ARMA terms

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob...
		1	-0.09...	-0.09...	0.8475	
		2	-0.00...	-0.01...	0.8527	
		3	0.039	0.037	0.9885	0.320
		4	0.155	0.164	3.1486	0.207
		5	-0.15...	-0.13...	5.4488	0.142
		6	0.083	0.059	6.0805	0.193
		7	0.055	0.053	6.3603	0.273
		8	0.022	0.023	6.4067	0.379
		9	-0.11...	-0.08...	7.7370	0.356
		1...	0.151	0.096	9.9563	0.268
		1...	-0.07...	-0.06...	10.550	0.308
		1...	-0.06...	-0.06...	10.911	0.364

Source: Author

It can be seen from Figure 4 that the autocorrelation coefficients have small values and are not statistically significant. Since one of the parameters before the factors can be considered statistically significant, it can be interpreted. From the obtained results, the following two conclusions can be made for Romania:

1. The levels of EONIA did not have a statically significant impact on the yield on the Romanian long-term government bonds.
2. At fixed rates of EONIA each month the interest rate on the long-term debt securities of the Romanian government is expected to decrease by 0,067108 p.p.

3. Conclusion

The impact of the ECB's unconventional monetary policy measures extends from the nominal and real interest rates across the yields of different types of financial assets through liquidity-absorbing operations, with the ultimate goal of reaching and enhancing economic activity. While the unconventional monetary policy has a direct effect on the key interest rates, its impact on the change of prices of shares, bonds and currencies is indirect. Among financial assets, the effect is stronger on the long-term government bond yields, which determined the motivation for the current paper.

Regarding the econometric study on the impact of the ECB's interest rate policy on the government bond yields of the two non-euro area EU member states – Croatia and Romania, it can be concluded that an increase by 1 p.p. in the key interest rate would lead to a change in yields on the long-term government securities in the range of -0,067 in Romania to -0,043 p.p. in Croatia. Only in Bulgaria at fixed levels of the base interest rate, each month the interest rate on the long-term government bonds is expected to decrease by 0,04 p.p. In addition, it can be said that the base interest rate and the time have a statistically significant impact on the Bulgarian long-term government bond yield.

Given that the pass through of the monetary policy decisions on the real economy takes time, the full effects of the unconventional measures on the macroeconomic conditions have not yet fully materialized. In this regard, Gambacorta, Hofmann and Peersman (2012) conclude that it is challenging to find an appropriate econometric model to analyze the macroeconomic effects of the leading central banks' measures aimed at increasing their balance sheets in times of crisis when the interest rates reach the zero lower bound[12].

REFERENCES

BIS, "International Banking and Financial Market Developments", *BIS Quarterly Review*, Bank for International Settlements, Basel, Switzerland, March 2015.

Borio, C., Disyatat, P., "Unconventional monetary policies: an appraisal", *BIS Working Paper*, No. 292*,* Bank for International Settlements, Basel, Switzerland, 2009.

Constâncio, V., "Assessing the new phase of unconventional monetary policy at the ECB", Panel remarks prepared at the Annual Congress of the European Economic Association, University of Manheim, 25 August 2015.

ECB, "The ECB's asset purchase programme: an early assessment", *ECB Working paper*, No. 1956, European Central Bank, Frankfurt am Main, Germany, 2016.

Fratzscher, M., Duca, M.L., Straub, R., "ECB Unconventional Monetary Policy Actions: Market Impact, International Spillovers and Transmission Channels", 15th Jacque Polak Annual Research Conference, IMF, Washington, D.C., USA, November 13-14, 2014.

Gambacorta,L., Hofmann, B., Peersman, G., "The Effectiveness of Unconventional Monetary Policy at the Zero Lower Bound: A Cross-Country Analysis", *BIS Working Paper,* No. 384, Bank of International Settlements, August 2012

.

IMF, "Global Impact and Challenges of Unconventional Monetary Policies", *IMF Policy Papers*, International Monetary Fund, Washington D.C., October 7, 2013.

Lambert, F., and K. Ueda, "The Effects of Unconventional Monetary Policies on Bank Soundness", *IMF Working Paper,* WP/14/152, International Monetary Fund, Washington D.C., August 2014.

Mishev, G., Goev, V., *Statistical analysis of time series*, „Avangard Prima" Publishing House, Sofia, 2010 [In Bulgarian original].

Regulation (EC) No 63/2002 of the European Central bank of 20 December 2001 concerning statistics on interest rates applied by monetary financial institutions to deposits and loans vis-à-vis households and non-financial corporations (ECB/2001/18).

Trifonova, V., *The ECB's Unconventional Monetary Policy in the Condition of Macroeconomic Imbalances*, Collection of Reports from the National Conference of Economics Department, UNWE, on Economic Challenges: Growth, Imbalances, Sustainable Development, November 6, 2015, UNWE, Sofia, 2016.

Trifonova, S., Trifonova, V., Atanassov, At., Kolev, Sv., *The Unconventional Monetary Policy of the World's Leading Central Banks and its Effects on Developed and Developing Countries, including Bulgaria,* collective monograph, Eudaimonia Production, Sofia, 2017.

Velichkova, N., *Statistical methods for studying and forecasting the development of socio-economic phenomena*, „Science and art" Publishing House, Sofia, 1981 [In Bulgarian original].

[12] Gambacorta,L., Hofmann, B., Peersman, G., "The Effectiveness of Unconventional Monetary Policy at the Zero Lower Bound: A Cross-Country Analysis", *BIS Working Paper,* No. 384, Bank of International Settlements, August 2012, p. 1.

Boris Tušek, **PhD, Tenured Professor**
University of Zagreb
Faculty of Economics & Business
Department of accounting
Trg J. F. Kennedy 6, HR-10000 Zagreb, Croatia
E-mail address: btusek@efzg.hr

Ana Ježovita, **PhD, Assistant Professor**
University of Zagreb
Faculty of Economics & Business
Department of accounting
Trg J. F. Kennedy 6, HR-10000 Zagreb, Croatia
E-mail address: ajezovita@efzg.hr

Lajoš Žager, PhD, Tenured Professor
University of Zagreb
Faculty of Economics & Business
Department of accounting
Trg J. F. Kennedy 6, HR-10000 Zagreb, Croatia
E-mail address: lzager@efzg.hr

SIGNIFICANCE OF ANALYTICAL PROCEDURES IN THE INTERNAL AUDIT ENGAGEMENTS OF THE PUBLIC-SECTOR ENTITIES IN EASTERN CROATIA

ZNAČAJ ANALITIČKIH POSTUPAKA U ANGAŽMANIMA FUNKCIJE INTERNE REVIZIJE U JAVNOM SEKTORU ISTOČNE HRVATSKE

ABSTRACT

Every Country, including Croatia, have public-sector entities that have a great role in managing and improving local, regional and overall national economy. To perform its services effectively and efficiently public-sector regulations include establishing effective internal control system and an internal audit function. Internal auditors in public sector entities must be directed to the enhancement of performance of public administration in accordance with principles of economy, efficiency and effectiveness. Their activities must be in accordance with the concepts of independence, accountability and transparency. Auditors are meeting their objectives by conducting assurance engagements, ad hoc engagements and consulting services. Engagements conducted by internal auditors must be harmonized with the International Professional Practices Framework (IPPF). The Standards, Implementation Guidance and Supplemental Guidance encourage using information technology and analytical procedures in all types of the internal audit engagements. Croatia is considered as developing country, and in that context, the level of prosperity of public-sector, and its activity, is related to that. Easter Croatia is considered as one of the less developed part of the Croatia with unfavourable economy movements, and negative migration rates during the last decade. Considering that, the research objective includes analysing differences of using analytical procedures in internal audit engagements, as a mechanism for enhancing performance of public-sector, compared to other regions in Croatia. The results of the research are based on the conducted survey among internal auditor employed in Croatian public-sector entities and publicly disclosed secondary data. The data will be analysed by appropriate *descriptive statistics and tests in order to investigate the association between habits and the level of using analytical procedures in different phases of internal audit engagements.*

Key words: *analytical procedures, internal audit engagements, internal auditors, public- sector, Eastern Croatia.*

SAŽETAK

Postojanje i položaj subjekata javnog sektora značajan je za svaku zemlju, uključujući Hrvatsku. Subjekti javnog sektora imaju ulogu unapređivati lokalnu, regionalnu i nacionalnu ekonomiju. Kako bi svoje aktivnosti provodili svrhovito i djelotvorno, subjekti javnog sektora zakonski su obvezni uspostaviti učinkovit sustav internih kontrola i funkciju interne revizije. Interni revizori u javnom sektoru moraju biti usmjereni na poboljšanje učinkovitosti javne uprave u skladu s načelima ekonomičnosti, djelotvornosti i svrhovitosti. Njihove aktivnosti moraju biti usklađene s konceptima neovisnosti, odgovornosti i transparentnosti. Osnovne aktivnosti internih revizora uključuju angažmane s izražavanjem uvjerenja, izvanredne angažmane ili pružanje savjetodavnih usluga. Angažmani koje provode interni revizori moraju biti usklađeni s Međunarodnim okvirom profesionalnog djelovanja (MOPD). Standardi, Provedbene smjernice i Dodatne smjernice, kao sastavni dijelovi MOPD-a, potiču korištenje informacijske tehnologije i analitičkih postupaka su svim vrstama angažmana koje provode interni revizori. Hrvatska se smatra zemljom u razvoju, a s tim je nerazdvojno povezana i razina razvijenosti javnog sektora, i aktivnosti subjekata u javnom sektoru. Istočna Hrvatska smatra se manje razvijenim dijelom Hrvatske, što se iskazuje kroz negativna gospodarska i migracijska kretanja. Uvažavajući tu činjenicu cilj istraživanja je utvrditi postojanje značajnih razlika u kvaliteti revizijskih angažmana u javim subjektima s aspekta primjene analitičkih postupaka u Istočnoj Hrvatskoj u odnosu na ostale hrvatske regije. Rezultati istraživanja temelje se na provedenom anketnom upitniku među internim revizorima zaposlenima u javnom sektoru u Republici Hrvatskoj i sekundarnim podacima. Prikupljeni podaci analizirat će se odgovarajućim metodama deskriptivne statistike, a utvrđivanje postojanja povezanosti u primjeni analitičkih postupaka u različitim fazama revizijskih angažmana u drugim regijama u odnosu na Istočnu Hrvatsku testirat će se primjenom odgovarajućeg testa.

Ključne riječi*: analitički postupci, angažmani interne revizije, interni revizori, javni sektor, Istočna Hrvatska.*

1. Introduction

Nowadays every country is faced with the changing environment characterized by chaotic, unpredictable and complex conditions. Now, more than ever, globalisation processes result with increasing competition, elevating certain regions, and holding back others. Consequently, development differences between regions occur. Public sector of every county should have an indisputable role of society development and accelerating effect on the prosperity increase. It is often emphasized that objective of public sector entities is to spend budgetary revenues purposeful. To achieve its objectives the public sector must act accountable, independent and transparent, respecting integrity. "An adequate degree of transparency and accessibility of general procurement information, including through the use of information and communication technologies and open data, promotes integrity and competition, minimizes waste and prevents corruption." (G20, 2015) „Accountability is imperative to make executive management and staff answerable for their behavior and responsive to the organization's key stakeholders. This may be achieved differently in different countries or political structures, depending on the history, cultural milieu, and value systems involved. (…) Accountability also means establishing criteria to measure the performance of the board and management, and oversight mechanisms to ensure that the standards are met." (The IIA, 2016) "Public integrity refers to the consistent alignment of, and adherence to, shared ethical values, principles and norms for upholding and prioritising the public interest over private interests in the public sector." (OECD, 2017) In order to ensure that each public-sector entity perform its activities in accordance with those principles, they are obliged to implement an effective internal control system and establish an internal audit function. The main purpose of the internal auditing is to be an independent and objective assurance that will add value and improve entity's operations, and to help them to accomplish its objectives (The IIA, 2018). "In general terms, the public sector consists of governments and all publicly controlled or publicly funded agencies, enterprises, and other entities that deliver public programs, goods, or services. Public sector governance includes two domains: public governance and organizational governance. Public governance refers to preconditions to run (govern) a jurisdiction — processes and structures necessary to ensure that the government can stay in power until the end of its mandate, implement public policies, have smooth relationships with legislative and judiciary powers, and pass on administration to the next government. Organizational governance is derived from the corporate governance experience and deals with the specific organizations that comprise the public sector. Organizational governance addresses how organizations should be structured to mitigate or eliminate conflicts of interest between their personnel and the citizens that the organizations represent." (The IIA, 2106)

Chaotic and changing environment results with the new surroundings in which internal auditors must significantly change the approach to their activities, from, the old, passive auditing approach to the new, proactive, users oriented approach. Potentials of the internal audit must be directed to the future, by providing assurance engagements, consulting services, and insights engagements related to anticipated risks in specific business operations.

For an efficient performance of the company's internal audit function, i.e. the quality of auditing procedures used in assurance engagements, consulting services and insights engagements, and by that achieved results of the internal audit function, in the form of findings, conclusions (opinions) and recommendations, of great importance is an application of mandatory standards, rules and guidance of professional practice. That Framework is created at the international level due to the need for a consistent development of the internal audit practice globally, strengthening confidence in internal auditing, but also assessing the quality of the internal audit function, performance, and fulfilment of users' expectations. In the international environment, the internal auditing is carried out by respecting various institutional and economic conditions, cultural differences, and it is established in organizations of various economic activities, size, and structure. Considering that, the global Institute of Internal Auditors, continuously defines and establishes set of general, fundamental and joint rules that internal auditors are applying in establishing and operating the internal audit function. Those rules are officially approved '*rules of the game*' that internal auditors at international level are obliged to respect and continuously apply, and that are disclosed in the form of the International Professional Practices Framework (IPPF). As a part of the Framework, the Institute developed two Supplemental Guidance specially aim to public-sector entities - *Assessing Organizational Governance in the Public Sector* (October 2014) and *Creating an Internal Audit Competency Process for the Public Sector* (February 2015). "Independent assessment of public sector accountability, risk management, and internal control is increasingly reliant on well-mandated and structured audit activities comprising competent internal auditors." (The IIA, 2016) It is evident that operating activities of companies in the real sector, and public-sector entities is opposed regarding its revenue sources, objectives, accountability, and purposes. "Public and private sector organizations differ considerably with regard to governance. Generally, public sector governance is more rigid and under greater regulatory burden." (The IIA)

Table 1 *Public vs. Private Sector Organizational Characteristics*

Organizational Characteristics	Public Sector	Private Sector
MAIN ORGANIZATIONAL PURPOSE	Protect/Serve Public Interest	Maximize Shareholder Value
CREATION	Law	Incorporation Acts

Organizational Characteristics	Public Sector	Private Sector
GOVERNANCE STRUCTURE	Governing Board/Audit Committee/Senior Official	Shareholders/Board of Directors/Audit Committee
FINANCE	Taxes/Revenues	Ownership/Debt/Revenues
OPERATIONAL RULES	Formal/Rigid/Law	Formal/Flexible/Informal
ACCOUNTABILITY	Citizenry/Legislature	Shareholders/Stakeholders/Regulators
OUTSIDE COMMUNICATION	Open/Public	President/Potential Shareholders, Stakeholders, and Regulators
CONTROL SYSTEMS	Rigid	Flexible

Source: The IIA, 2014, 4.

Taking into account differences between public and private sector (Table 1), internal auditors must adapt its activities to public sector characteristics. "The audit function's effectiveness is impacted by unique public-sector characteristics, including:

- the demand for a high level of transparency and performance
- the usual absence of a profit motive
- a wide variety of organizational forms (e.g., national, regional, and local governments and quasigovernmental and international government organizations)
- complex legal frameworks for governing bodies." (The IIA, 2015)

In order to accomplish its objectives, the internal audit function must perform its activities accountable and independently taking into account to obtain results timely and efficiently. A contemporary business condition, that incorporates information technology development, provides numerous possibilities for an efficiency increase of the internal auditors' activities. In that context, new, more efficient approaches and procedures are developed that highlight importance and possibilities of analytical procedures in internal audit engagements. "By analysing data within key organizational processes, internal audit is able to detect changes or vulnerabilities in organizational processes and potential weaknesses that could expose the organization to undue or unplanned risk. This helps identify emerging risk and target audit resources to effectively safeguard the organization from excessive risk and improve overall performance. This also enables internal audit to identify changes in organizational processes and ensure that it is auditing today's risks — not yesterday's." (The IIA, 2011) Analytical procedures should be used in all phases of the assurance engagements: planning, preparation, testing, reviewing. (The IIA, 2011)

2. Literature Review

Marks (2009) concludes that "at minimum, data analytics should include performing limited fraud detection procedures, financial trend analysis; and ratio analysis for relevant investment, productivity, liquidity, activity, leverage, profitability, and coverage ratios. The data needed to perform these types of analyses is often readily available – and can be performed well in advance of fieldwork." (Marks, 2009, 37-38)

Sparks (2010) emphasizes that "while system and data errors can serve as a breeding ground for fraud and abuse, internal auditors can apply data analysis techniques to identify issues within the organization's data. Data analysis tools allow the auditor to interrogate large volumes of data, and run multiple queries to look for and extract unknown information, which assists in detecting internal control violations, errors and potential fraud." (Sparks, 2010, 14) "Data analysis tools help maintain the history of analysis activities to support audit conclusions and ensure the auditing work did not introduce data integrity and reliability issues into the workpapers." (Sparks, 2010, 14)

Trompeter and Wright (2010) "examines how the use of APs has changed in recent years in response to significant drivers and enablers in the audit environment". (Trompeter and Wright, 2010, 675) “We conducted interviews with 36 practicing auditors. Our sample was chosen on an availability basis with the assistance of key firm personnel.” (Trompeter and Wright, 2010, 673) “We find that changes in technology and, to a lesser extent, firm audit approaches have facilitated or enabled such changes. (…) While auditors tend to use simple APs, the current study also suggests, as noted, that they gather and consider a broader array of industry and company information than in the past, particularly nonfinancial information that is widely available through the internet and databases.” (Trompeter and Wright, 2010, 693)

Messier, Jr. (2010) states important issues related to analytical procedures that should be researched in the future “number of interesting results related to the conduct of APs based on their interviews: (1) auditors rely more extensively on technology for industry and analyst data, (2) auditors reported that they develop more precise quantitative expectations and use more non-financial information, (3) it appears that audit teams rely more on lower level audit staff to perform APs, (4) auditors conduct greater inquiry of non-accounting personnel, (5) auditors continue to rely extensively on comparing last year with the current year and rely heavily on management’s explanation, and (6) auditors are willing to reduce substantive testing to a greater extent as a result of APs conducted in the planning phase.” (Messier, Jr., 2010, 322)

Wang and Cuthbertson (2015) also stress out issues on audit data analytics that should be researched in the future. “These reasons include difficulty in acquiring appropriate data, a lack of trained staff, reluctance to invest, not knowing where to start, uncertain benefits and costs of the audit, and concerns about ‘false positives’.” (Wang and Cuthbertson, 2015, 155-156) “Despite the importance of using data analytics in audit engagements to improve audit quality and the practical needs of leveraging the massive amount of available data, our understanding of using data analytics in audit engagements is still limited. (…) Recent innovations in analytics, or at least media coverage, including visualization, big data, predictive analytics, and machine learning may give the impression that these advances may remove barriers that have inhibited the use of audit data analytics in the past.” (Wang and Cuthbertson, 2015, 156) Authors concluded, “the important role played by data analytics in audit engagements is evident” (Wang and Cuthbertson, 2015, 160).

Soileau, Soileau and Sumners (2015) give an “overview of the evolution of analytics, along with key considerations for using analytics as part of the audit process.” (Soileau, Soileau and Sumners, 2015, 10) “The value of analytics is based on the accuracy of the underlying information. Technology has increased the validity of data input, processing, and output, and has also increased the ability to access information.” (Soileau, Soileau and Sumners, 2015, 10) “Analytics must be systematically incorporated into the audit mindset and the audit methodology as opposed to ad hoc to be more effective. (…) An understanding of analytics, data analysis, and query software will be essential for the internal auditor of the future. The use of analytics in the audit process results in better audit planning, focus, and recommendations with a further emphasis on output metrics and the business process.” (Soileau, Soileau and Sumners, 2015, 12-13)

3. Developing Hypotheses, Designing Sample, Research Methodology and Results

The internal audit function must operate with the objective to ensure and increase performance, accountability, transparency and integrity of the public-sector entity. To accomplish its objective the function performs assurance engagements as its core activity. Those engagements must be performed in accordance with the International Professional Practices Framework (IPPF). Important techniques for performing the internal audit engagements, in a contemporary environment with emphasized role of the information technology, are analytical procedures. Unfortunately, the fact is that not all public-sector entities are dealing with equal local environmental conditions and opportunities, which leads to regional development differences. The research matter includes question does the regional development differences impact on the advancement of the internal audit function of the public-sector entities measure by the level of using analytical procedures in an assurance engagements. It is considered that more advanced internal audit functions more rely on the IT and data analytics in their engagements (the internal audit advancement proxy). The proxy of region development level will be combination of the main macroeconomic indicators (population, gross domestic product per capita, unemployment rate, migration indicator). The research subject is a Croatian public sector observed by the region of its operating activities. The research matter results with two research hypotheses:

H1: *It is possible to determine the advancement level of the internal audit function in Croatian public sector entities regarding its region of operation.*

H2: *There exist statistically significance differences in the advancement of the internal audit function in Eastern Croatia compared to other Croatia regions.*

In order to test the research hypotheses Croatia is divided into four regions (The City of Zagreb, Central Croatia, Eastern Croatia, and Mediterranean Croatia). The public sector in Croatia includes state, regional and local government. The regional level is represented by 21 counties that will be divided into four geographical regions (Table 2).

Table 2 *Classification of Croatian counties into geographical regions*

The City of Zagreb	Central Croatia	Eastern Croatia	Mediterranean Croatia
City of Zagreb	Međimurje	Koprivnica-Križevci	Istria
	Varaždin	Bjelovar-Bilogora	Primorje-Gorski Kotar
	Krapina-Zagorje	Sisak-Moslavina	Lika-Senj
	Zagreb	Virovitica-Podravina	Zadar
	Karlovac	Požega-Slavonia	Šibenik-Knin
		Brod-Posavina	Split-Dalmatia
		Osijek-Baranja	Dubrovnik-Neretva
		Vukovar-Srijem	

Source: Croatian Bureau of Statistics, 2011, [webpage]

Region development proxy incorporates macroeconomic indicators (population, income poverty risk rate, gross domestic product per capita in HRK and average unemployment rate). In order to diminish the size effect and make it comparable, dependent variables are weighted.

Table 3 *Macroeconomic indicators for Croatian regions in 2011*

	Population (2011)	Income poverty risk rate (2011)	Gross domestic product per capita, HRK (2011)	Average unemployment rate (2011)	Development proxy
The City of Zagreb	790,017	9.8	141.444	9.4	**5.87**
Central Croatia	869,152	19.3	57.890	18.6	**2.90**
Eastern Croatia	1,213,785	27.5	54.808	29.0	**2.30**
Mediterranean Croatia	1,411,935	18.2	74.183	19.5	**3.26**

Source: Croatian Bureau of Statistics, 2011 [webpage]; Croatian National Bank, 2018 [webpage]; Hrvatski zavod za zapošljavanje, 2018 [webpage].

To be consistent, all indicators are for 2011 (last conducted Census). The indicators are gathered at county level, and then calculated for regions (Table 3). Development proxy (*d.proxy*) is calculated by using the following equation:

$$d.proxy = \frac{p_k}{\Sigma p_k} + \frac{1}{ipr_k/\Sigma ipr_k} + \frac{GDPc_k}{\Sigma GDPc_k} + \frac{1}{ue_k/\Sigma ue_k}$$

where:
p = population (+)
ipr = income poverty risk (-)
GDPc = gross domestic product per capita (+)
ue = average unemployment rate (-)

The higher score represents a greater development level. According to the obtained results the most developed region is the City of Zagreb (5.87) followed by Mediterranean Croatia (3.26), then Central Croatia (2.90), and the least developed is Eastern Croatia with the score of 2.30. Results show that the City of Zagreb is 2.6 times more developed than Eastern Croatia. Average development proxy for Croatia is 3.33.

The data on the internal audit activity of the public-sector entities in Croatia was gathered by the survey (October – December 2017). The internal auditors were asked if they use analytical procedures in different phases of the assurance engagements, and to choose the type of procedure they use. The analytical procedures were classified into eight groups by similarity and complexity. The survey was completed by 107 internal auditors of public-sector entities from Croatia. The examinees were classified in one of four Croatian regions according to the headquarter of the particular entity. Variables were qualitative, and they were quantified by assigning adequate grades to answers. The grading system will be used to determine advancement level of the internal audit function (*IA.proxy*). The variables used to assess the advancement level are the size of the public-sector entity measured by the employees' number (<50 = 1; 51-200 = 2; 201-500 = 3; >500 =4), and the size of the internal audit function measured by the number of internal auditors (1-2 = 1; 3-5 = 2; 6-10 = 3; >10 = 4). Next to the size component, equation includes a component that evaluates using analytical procedures in assurance engagements. That component is measured by four variables: number of phases in which internal auditors participate (planning, performing, reporting, follow-up), number of phases in which they use analytical procedures, number of analytical procedures groups they use in every phase, and confidence in analytical procedures. The confidence is measured by the tendency to the opinion that that the more intensive application of data analysis directly contributes to the higher quality of the audit process (three grade scale: 0, 1, 2). The proxy is calculated by using the following equation:

$$IA.proxy = [(0.6 * e.size) + (0.4 * IA.size)] + \left[\left(\frac{part.level}{AP.phases} * no.AP\right) * AP.conf\right]$$

where:
IA.proxy = the level of advancement of the internal audit function
e.size = the size of the public-sector entity measured by the employees' number
IA.size = the size of the internal audit department measured by the employees' number
part.level = phases of the assurance engagement in which internal auditors participate
AP.phases = phases in which internal auditors using analytical procedures
no.AP = the extent to which internal auditors uses analytical procedures in a particular phase of the assurance engagements
AP.conf = confidence in analytical procedures regarding findings

The advancement level of the internal audit function (*IA.proxy*) represents ordinal variable where obtained result represent development level in sense of analytical procedures. Higher grade means higher development level.

Obtained results show that average advancement level of the internal audit function in Croatia is 6.106 with a standard deviation of 2.750 (Table 4). Additionally, it can be concluded that half of departments included in the research have grade 5.55 and less, and the other half have advancement grade higher than 5.55, 75% of departments are evaluated with grades from 4.10 to 8.10. The most often advancement level of the internal audit department in Croatia is 4.1. The worst obtained grade is 1.00 and the highest is 13.70.

***Table 4** Descriptive statistics for the advancement level of the internal audit function in Croatia*

IA.proxy	**Mean**	**Standard Deviation**	**Median**	**Mode**
	6.106	2.750	5.550	4.100
	Minimum	**Percentile 25**	**Percentile 75**	**Maximum**
	1.000	4.100	8.100	13.700

Source: Authors calculations

***Table 5** Descriptive statistics for the advancement level of the internal audit function in Croatia by region*

Region	Count	Mean	Median	Mode	Minimum	Maximum
The City of Zagreb	48	6.987	6.488	4.100	2.200	13.700
Central Croatia	13	5.650	4.700	7.600	3.600	11.600
Eastern Croatia	17	6.125	5.350	5.350	2.475	10.800
Mediterranean Croatia	29	4.841	4.450	3.350	1.000	12.200

Source: Authors calculations

Next to given results, it possible to assess the advancement level of the internal audit department by the region of its headquarters and activities (Table 5). All descriptive statistics show differences in results observed by the region. The City of Zagreb has the highest average grade of 6.987, i.e. half of the departments have grade 6.488 and lower, and another half have grade higher than 6.488, the most frequent grade is 4.100. The least developed internal auditing departments are headquartered in the Mediterranean Croatia with an average grade of 4.841, and mode of 3.350. The least developed department with a grade of 1.00 is located in the Mediterranean Croatia, and highest developed is located in the City of Zagreb (13.700). Taking into account designed model and obtained results it can be concluded that it is possible to determine the advancement level of the internal audit functions of Croatian public-sector entities regarding its region by which the first research hypothesis (H1) can be accepted.

The region development results show that Eastern Croatia is considered as the least developed region in Croatia. Almost a third of the population (28,33%) comes from the Eastern Croatia. The region has convincingly the highest income poverty risk rate, average unemployment rate, and the lowest gross domestic product per capita. Considering that, the development level of the internal audit department in Eastern Croatia is a bit surprising, putting it in the second place, right behind of the City of Zagreb, with an average advancement grade of 6.125.

***Table 6** Results of the Kruskal Wallis Test*

	Regional Development	Internal Audit Function Development
Chi-Square	106.000	12.034
df	3	3
Asymp. Sig.	.000	.007

a. Kruskal Wallis Test

b. Grouping Variable: Region

Source: Authors calculations

Results obtained by nonparametric Kruskal-Wallis Test shows that there exists a statistically significant difference in the advancement level of the internal audit departments in different Croatia regions (Chi-Square value is 12.034 and empirical significance level is 0.007). Next to differences between internal audit departments, differences in regional development level also exist. Nevertheless, although the relationship between the advancement level of the internal audit departments and the regional development level is significant at the level of 1% (2-tailed), a correlation of 0.254 can be considered as a medium strong with a positive direction. Although Eastern Croatia is considered as the least developed region in Croatia, the internal audit departments operating in that region can be considered as better developed compared to average Croatia results, with higher mode of 5.350 (total Croatia mode 4.100). It can be concluded that there exist statistically significant differences in the advancement of the internal audit function in Eastern Croatia compared to other Croatia regions by which second research hypothesis (H2) can be accepted.

4. Conclusion

Globalisation processes result with general growth and development, but on the other hand differences between different national and geographical regions becomes even more pronounced. The role to equalize inequality and to ensure the welfare at state, regional or local level have public-sector entities. In achieving its objectives, the public-sector entities must act accountable, independent and transparent, respecting integrity concept. Great role in ensuring that public-sector entities operate in accordance with stated principles have internal auditors. The paper includes investigating development levels of different Croatian regions. The results show that the City of Zagreb is the most developed, and the Eastern Croatia is the least developed region in Croatia. Considering that, the internal audit function in different regions were researched. The observed data was collected via survey that was conducted during last quartile of 2017. The research question of the paper investigates if it is possible to develop a model for evaluating the advancement level of internal audit departments in Croatia. By the results of developed model, it is confirmed that there exist statistically significant differences in the development level of internal audit activities between different regions in Croatia. According to results, the best developed functions are located in the City of Zagreb, followed by departments in the Eastern Croatia, and the least developed are the one in the Mediterranean Croatia.

REFERENCES

Journal Articles

Marks, N. (2009): ***The Search for Meaningful Data: Leveraging Data Analysis Software***, Internal Auditor, August 2009, pp. 35-38.
Messier, Jr., W. F. (2010): ***Opportunities for Task-Level Research within the Audit Process***, International Journal of Auditing, 2010, 14, pp. 320-328, DOI: 10.1111/j.1099-1123.2010.00420.x, p. 322 according to: Trompeter, G. &Wright, A. (forthcoming). 'The world has changed; have analytical procedure practices?' Working Paper, Northeastern University.
Soileau, J., Soileau, L. & Sumners, G. (2015): ***The Evolution of Analytics and Internal Audit***, EDPACS, 51 (2), pp. 10-17, DOI: 10.1080/07366981.2015.1012441.
Sparks, D. E. (2010): ***More Power for Internal Audit***, Accounting Today, 24 (7), 2010, pp. 14-15.
Trompeter, G. & Wright, A. (2010): ***The World Has Changed—Have Analytical Procedure Practices?***, Contemporary Accounting Research, Summer 2010, 27 (2), pp. 669-700, DOI: 10.1111/j.1911-3846.2010.01021.x.
Wang, T. and Cuthbertson, R. (2015): ***Eight Issues on Audit Data Analytics We Would Like Researched***, Journal of Information Systems, 29 (1), Spring 2015, pp. 155-162.

Internet Resources

Croatian Bureau of Statistics (Državni zavod za statistiku): Popis stanovništva, kućanstava i stanova 2011. godine, available at: www.dzs.hr (accessed 09 March 2018)

Croatian National Bank (2018) Bulletin, Statistical Survey, No 239 – January 2018, Table G10a: ***Midpoint Exchange Rates of the Croatian National Bank*** (period average), available at: www.hnb.hr (accessed 09 March 2018)

G20 (2015): ***G20 Principles for Promoting Integrity in Public Procurement***, www.seffaflik.org/wp-content/uploads/2015/02/G20-PRINCIPLES-FORPROMOTING-INTEGRITY-IN-PUBLIC-PROCUREMENT.pdf (accessed 09 March 2018)

Hrvatski zavod za zapošljavanje (2018) Labour market indicators, available at: http://trzisterada.hzz.hr/UnemploymentRates/Location?timeid=201100&rend=0 (accessed 09 March 2018)

The Global Institute of Internal Auditors (2011): The International Professional Practices Framework (IPPF). Supplemental Guidance. Global Technology Audit Guide (GTAG). ***Data Analysis Technologies*** (August 2011). available at: https://na.theiia.org/standards-guidance/recommended-guidance/practice-guides/Pages/Practice-Guides.aspx (accessed 09 March 2018)

The Global Institute of Internal Auditors (2014): The International Professional Practices Framework (IPPF). Supplemental Guidance. ***Assessing Organizational Governance in the Public Sector*** (October 2014). available at: https://na.theiia.org/standards-guidance/Member%20Documents/PG%20Assessing%20Organizational%20Governance%20in%20the%20Public%20Sector.pdf (accessed 09 March 2018)

The Global Institute of Internal Auditors (2015): The International Professional Practices Framework (IPPF). Supplemental Guidance. ***Creating an Internal Audit Competency Process for the Public Sector*** (February 2015). available at: https://na.theiia.org/standards-guidance/Member%20Documents/Creating-IA-Competency-in-Public-Sector.pdf (accessed 09 March 2018)

The Global Institute of Internal Auditors. the International Professional Practices Framework (IPPF). ***Definition of Internal Auditing***. available at: https://na.theiia.org/standards-guidance/mandatory-guidance/Pages/Definition-of-Internal-Auditing.aspx (accessed 09 March 2018)

The Organisation for Economic Co-operation and Development (2017): ***OECD Recommendation of the Council on Public Integrity***. available at: http://www.oecd.org/gov/ethics/Recommendation-Public-Integrity.pdf [09/03/2018]

Boris Tušek, PhD, Tenured Professor
University of Zagreb, Faculty of Economics and Business
JF Kennedy 6, 10 000 Zagreb, Croatia
Phone: 00385-1-2383-195 Fax: 00385-1-233-5633
E-mail address: btusek@efzg.hr

Ana Novak, PhD, Assistant professor
University of Zagreb, Faculty of Economics and Business
JF Kennedy 6, 10 000 Zagreb, Croatia
Phone: 00385-1-2383-116 Fax: 00385-1-233-5633
E-mail address: anovak@efzg.hr

Ivana Barišić, PhD, Assistant professor
University of Zagreb, Faculty of Economics and Business
JF Kennedy 6, 10 000 Zagreb, Croatia
Phone: 00385-1-2383-116 Fax: 00385-1-233-5633
E-mail address: ibarisic@efzg.hr

CHALLENGES IN ADJUSTING INTERNAL CONTROLS TO CHANGES IN ACCOUNTING REGULATION

IZAZOVI PRILAGODBE INTERNIH KONTROLA PROMJENAMA RAČUNOVODSTVENE REGULATIVE

ABSTRACT

In order to ensure quality information of the financial position and performance of the company, it is necessary to establish an appropriate internal control system. One of the main goals of organizing and developing an internal control system is to provide reasonable assurance on the reliability of financial reporting. In this context, internal controls are designed to provide the comprehensiveness and accuracy of accounting records that result from appropriate recording of business transactions, in accordance with generally accepted accounting principles, standards and law regulations. This also reflects the role of internal control in preparing and presenting positions in financial statements. Reliable financial statements are of utmost importance not only for management and its responsibility in the context of financial reporting but also for numerous external users who make certain business decisions based on information presented in financial statements. The existence of effective internal controls in the company should therefore increase the quality of financial reporting. Disadvantages or material weaknesses of internal controls in this context may adversely affect the reliability of the information presented in financial statements. Certain accounting categories are particularly vulnerable to irregularities and weaknesses of internal controls. For example, revenue recognition is a particularly important area in financial reporting which is often associated with weaknesses of internal controls, primarily because of insufficient revenue recognition policies. Development and implementation of new accounting standards requires adaptation of internal controls to support new requirements and ensure reliable financial reporting. Therefore, this paper will analyse the importance of internal controls for the quality of financial reporting with special emphasis on possibilities for adapting and upgrading internal controls as a result of changes in accounting regulation in order to assure reliable financial reporting.

Key words: *Internal control, Internal control over financial reporting, Internal control weakness, Financial reporting, Revenue.*

SAŽETAK

Kako bi se osigurale kvalitetne informacije o financijskom položaju i uspješnosti poslovanja poduzeća neophodno je uspostaviti odgovarajući sustav internih kontrola. Jedan od glavnih ciljeva organiziranja i razvoja sustava internih kontrola je osiguranje razumnog uvjerenja o pouzdanosti financijskog izvještavanja. U tom kontekstu interne kontrole imaju za cilj osigurati sveobuhvatnost i točnost računovodstvenih evidencija, što proizlazi iz odgovarajuće evidencije poslovnih transakcija, u skladu s općeprihvaćenim računovodstvenim načelima, standardima i zakonskim propisima. Iz navedenog proizlazi i uloga interne kontrole u pripremi i prezentiranju pojedinih pozicija u financijskim izvještajima. Pouzdani financijski izvještaji od iznimne su važnosti ne samo za menadžment i njegovu odgovornost u kontekstu financijskog izvještavanja već i za brojne eksterne korisnike koji na temelju tih informacija donose određene poslovne odluke. Postojanje učinkovitih internih kontrola u poduzeću trebalo bi, dakle, djelovati u smjeru povećanja kvalitete financijskog izvještavanja. Nedostaci, odnosno materijalno značajne slabosti internih kontrola u ovom kontekstu mogu nepovoljno utjecati na pouzdanost informacija sadržanih u financijskim izvještajima. Određene računovodstvene kategorije su posebno osjetljive na nepravilnosti i nedostatke u funkcioniranju internih kontrola. Tako je, primjerice, problematika vezana uz priznavanje prihoda posebno značajno područje u financijskom izvještavanju koje se često povezuje sa slabostima internih kontrola, i to prvenstveno zbog nedostatnih politika vezanih uz priznavanje prihoda. Razvijanjem i primjenom novih standarda financijskog izvještavanja potrebna je prilagodba internih kontrola kako bi se podržali novi zahtjevi i osiguralo pouzdano financijsko izvještavanje. Stoga će se u radu istražiti značaj internih kontrola u osiguranju kvalitete financijskog izvještavanja te će se poseban naglasak staviti na mogućnosti prilagodbe i nadogradnje internih kontrola uslijed promjena u računovodstvenoj regulativi s ciljem ostvarenja pouzdanog financijskog izvještavanja.

Ključne riječi: *Interna kontrola, Interne kontrole nad financijskim izvještavanjem, Slabosti internih kontrola, Financijsko izvještavanje, Prihodi.*

1. Introduction

The importance of an internal control system is visible in many "corporate scandals from the beginning of 21st century, which pointed to a weakness in internal control as a source of financial failure in the economy of the capital market" (Soltani, 2009, p. 302; see more in Soltani, 2014). According to the report *Fraudulent Financial Reporting: 1987–1997 – An Analysis of U.S. Public Companies* commissioned by *the Committee of Sponsoring Organizations of the Tread way Commission* (COSO) "(...) the inability or even unwillingness to implement cost-effective internal controls may be a factor affecting the likelihood of financial statement fraud (e.g., override of controls is easier)" (Beasley et. al., 1999., p.6). According to the results of the 2016 ACFE Report to the Nations on Occupational Fraud and Abuse study, which provides an analysis of 2,410 cases of occupational fraud that occurred in 114 countries throughout the world, the most prominent organizational weakness that contributed to the frauds was a lack of internal controls. This was cited in 29.3% of cases, followed by an override of existing internal controls, which contributed to just over 20% of cases" (ACFE, 2016, p. 5.).

According to COSO, internal control is "a process, affected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting, and compliance (COSO, 2013, p. 3)".

The system of internal controls is usually analysed through five interconnected components: control environment, risk assessment, control activities, information and communication, and monitoring. A control environment represents the bases for all other components of internal control indicating the overall perception, level of awareness and activities of the owner and management with respect to the system of controls and its importance in the company. Treadway Commission (1987, p. 32, cited in Arel, et al. 2011 p. 4), reported on "the tone at the top", i.e. the environment within which reporting is performed, as the most important factor contributing to the integrity of the process of financial reporting. Risk assessment, as a component of the system of internal control, does not refer to formal quantitative risk assessment, but to management responsibility as to assessing the level of risk significance, predicting risk probability, considering ways of risk management and estimating necessary activities to be undertaken (Moeller, 2007, p. 165). Control activities represent policies and procedures that ensure the execution of management demands and undertaking all necessary measures related to risk management in order to achieve company goals (Hong Kong Institute of Certified Public Accountants, 2005, p. 10). Information and communication are necessary for achieving effective control. Significant information from external and internal sources needs to be identified, gathered and transferred in the form and period in which it can serve as assistance in making business decisions (Committee of Sponsoring Organizations of the Treadway Comission, 1994). It is necessary to monitor internal control in order to assess its effectiveness and quality. Monitoring can be performed by both persons within the company i.e. management and employees, and an external party. In large companies and conditions of complex business performance the most important role, regarding this matter, is the one of internal audit.

In the remainder of the paper we analyze the importance of internal controls regarding financial reporting with special emphasis on the adjustment of internal controls due to changes in accounting regulations in the area of revenue recognition.

2. Internal controls and financial reporting

Management is responsible for establishing and maintaining an effective system of internal control. Namely, although management is responsible for establishing an effective internal controls system, it is also "in a unique position to perpetrate fraud because it possesses the power to override controls, manipulate records, and facilitate collusion by applying pressure to employees and either enlisting or requiring their assistance" (Centre for Audit Quality, 2010, p. 5). According to the results of numerous studies (eg. COSO, 2010; Deloitte, 2009) the most common type of financial statement fraud "involves overstatements of revenues and earnings and understatement of costs and expenses so as to inflate the profitability or minimize the losses of an entity" (Golden, 2006. p. 65).

Effective internal controls influence the decrease of the opportunity that management may have in order to engage in fraudulent financial reporting (AICPA, 2000; COSO, 1999; PCAOB, 2007 cited in Liu & Wright, 2015, p.296; Somayyeh Hosseini, 2015, p.38). Internal control along with the mechanisms of corporate governance, including Boards of directors and Audit committees form effective corporate governance and play a key role in "reducing opportunities to commit fraud" (Dechow, Sloan & Sweeney, 1996; Beasley, 1996; Farber, 2005; Abbott, Parker & Peters 2004, cited in Hogan et. al. 2007, p.2). Therefore, regulatory bodies stress the role of internal controls and their empowerment which would, in turn, affect and prevent fraudulent financial reporting (Beasley & Hermanson, 2004; PCAOB, 2007, cited in Liu & Wright, 2015, p. 296.).

One of the main goals of organizing and developing an internal control system is to provide reasonable assurance on the reliability of financial reporting. In this regard it is particularly significant the role of internal control over financial reporting, which are "a process effected by those charged with governance, management, and other personnel, designed to provide reasonable assurance regarding the preparation of reliable financial statements in accordance with the applicable financial reporting framework and includes those policies and procedures that:

i. pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the entity;
ii. provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with the applicable financial reporting framework, and that receipts and expenditures of the entity are being made only in accordance with authorizations of management and those charged with governance; and
iii. provide reasonable assurance regarding prevention, or timely detection and correction of unauthorized acquisition, use, or disposition of the entity's assets that could have a material effect on the financial statements" (AICPA, 2016, pp.1527-1528.).

Donelson et al. examined "whether and how weak internal controls increase the risk of financial reporting fraud by top managers" and "find a strong association between material weaknesses and future fraud revelation" (Donelson et al., 2017, p.45). According to Dechow and Schrand (2004, p. 42; cited in Stubben, 2009, p.1) over 70 percent of SEC Accounting and Auditing Enforcement Releases involve misstated revenues and "revenues are the most common type of financial restatement (Turner et al. 2001; cited in Stubben, 2009, p.1).

Reliable financial statements are of utmost importance not only for management and its responsibility in the context of financial reporting but also for numerous external users who make certain business decisions based on information presented in financial statements. The existence of effective internal controls in the company should therefore increase the quality of financial reporting and reduce the possibility for fraudulent financial reporting.

3. Adjustment of internal control system due to changes in accounting regulations

Revenues are a very important element in the financial statements and given that the area subject to manipulation, especially in the absence of detailed guidelines and requirements of financial reporting standards. The results of the research conducted in the period 2000-2008 by the Deloitte stated that the revenue recognition fraud (30% of cases) is the most common financial statement fraud scheme alleged by the SEC. In this research, it is stated that the most common types of revenue recognition fraud in 2007 and 2008 were the recording of fictitious revenue, followed by recognition of revenue when products or services were not delivered; delivery was incomplete or delivered without customer acceptance (Deloitte, 2009, p. 9). Ernst & Young 2016 study found that 11% of other finance team members and 7% of CFOs would book revenues earlier than they should (Ernst & Young, 2016, p.15).

Revenues were one of the most significant areas of difference between International Financial Reporting Standards (IFRS) and United States Generally Accepted Accounting Principles (US GAAP). Namely, IFRS on revenue recognition were considered lacking of detailed requirements, without specific requirements for industry or type of contract that opens the possibility of manipulation. US GAAPs in this area, on the other hand, were comprised of too detailed requirements and this led to the different accounting recording of transactions that were very similar by economic nature (FASB, 2014). The idea behind the joint collaboration between The International Accounting Standards Board (IASB) and The Financial Accounting Standards Board (FASB) was to improve reporting on revenues as well as to enable and improve comparability of revenues globally. Collaboration also resulted in two significantly converged standards issued in 2014, International Financial Reporting Standard (IFRS) 15[1] *Revenue from contracts with*

[1] Standard is effective from annual periods beginning from 1 January 2018 and earlier application is permitted. It replaces the following standards and interpretations: IAS 11 Construction contracts, IAS 18 Revenue, IFRIC 13 Customer Loyalty Programmes,

customers and Accounting Standards Update (ASU) No. 2014-09 codifying ASC 606[2] *Revenue from contracts with customers*.
Although there are certain differences between those standards (see more in Deloitee, 2018; KPMG, 2017), the fundamental changes related to the revenue recognition are basically the same, and the core principle of the revenue recognition is "*that an entity will recognize the revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services*" (Deloitee, 2017a, b). In order to apply the core principle of revenue recognition, standards elaborated the five-step model outlined in Table 1.

***Table 1** Five step model framework for revenue recognition*

Step 1: *Identifying the contract with a customer*	Criteria for contract that is within the scope of IFRS 15 (IFRS 15:9): • a contract has been approved by the parties to the contract, • a company can identify each party's rights, • a company can identify the payment terms for the goods or services from the contract, • existence of commercial substance of the contract, • it is probable that the company „will collect the consideration to which it will be entitled in exchange for the goods or services that will be transferred to the customer." A contract is defined as „an agreement between two or more parties that creates enforceable rights and obligations" (IFRS 15:10) The above-mentioned criteria (IFRS 15: 9) need to be established at contract inception and need not to be re-evaluated, "except there is an indication of a significant change in facts and circumstances" that may affect them (IFRS 15:13). The Standard also defines the treatment in case of contract modifications (IFRS 15: 18-21).
Step 2: *Identify the performance obligations in the contract*	Company has to assess the goods or services that are part of a contract, at contract inception, and identify a performance obligation which can be defined as each promise to transfer to the customer either (IFRS 15:22) : a) „a good or service that is distinct; or b) a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer."
Step 3: *Determine the transaction price*	„The transaction price is the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third parties (for example, some sales taxes). The consideration promised in a contract with a customer may include fixed amounts, variable amounts, or both"(IFRS 15:47).
Step 4: *Allocate the transaction price to the performance obligations in the contract*	„The objective when allocating the transaction price is for an entity to allocate the transaction price to each performance obligation (or distinct good or service) in an amount that depicts the amount of consideration to which the entity expects to be entitled in exchange for transferring the promised goods or services to the customer" (IFRS 15:73)
Step 5: *Recognise revenue when (or as) the entity satisfies a performance obligation*	A company „shall recognise revenue when (or as) it satisfies a performance obligation by transferring a promised good or service (ie an asset) to a customer. An asset is transferred when (or as) the customer obtains control of that asset" (IFRS 15:31). Performance obligation can be satisfied over time and at a point in time. If a company „does not satisfy a performance obligation over time, the performance obligation is satisfied at a point in time" (IFRS:32). „Control of an asset refers to the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset. Control includes the ability to prevent other entities from directing the use of, and obtaining the benefits from, an asset (IFRS 15:33).

Source: Based on IFRS 15 — Revenue from Contracts with Customers

The new standards bring great changes in industries and sectors where contracts are long-term nature, such as construction, telecommunication, real estate, software development, etc. When implementing new standards companies will have to take into account two things: "the timing of revenue and profit recognition" (Deloitte, 2018, p. 7), as revenues can be recognized earlier than it was allowed according to the former standards. As a result, the changes will involve the company's accounting information system to ensure the proper application of the new revenue recognition model but policies and procedures will need to be changed not only within the accounting information system. In the context of the aforementioned, internal controls, especially internal controls over financial reporting, play a significant role. Given the change in standards, it is

IFRIC 15 Agreements for the Construction of Real Estate, IFRIC 18 Transfers of Assets from Customers, SIC-31 Revenue - Barter Transactions Involving Advertising Services.
[2] Effective after 15 December 2017 for public business entities or after 15 December 2018 for all other entities

necessary to establish policies and procedures that relate directly to the preparation of financial statements in accordance with the new set of requirements and demands within the executive, information and management subsystem of the company so that financial statements comply with the relevant financial reporting framework. They may act in two directions: such as preventive controls for the purpose of preventing irregularity, errors and frauds that may have effect on inaccurate reporting in the financial statements or as detective controls in order to reveal any irregularities, errors and deceptions that have already happened and may have impact on inaccurate reporting in the financial statements. Internal controls over financial reporting will include accounting controls as well as all other internal controls that are part of the executive subsystem such as sales, procurement, and production (Tušek, Žager, Barišić, 2014, pp. 156-157). This is necessary in order to prevent or eliminate irregularities, errors or frauds that may have an undesirable impact on the financial statements in the sense of existence of significant errors.

The flexibility of internal controls that is reflected in adapting to emerging needs and circumstances is one of the criteria (Sawyer, Dittenhofer & Schneier, 2003, pp. 78-80) that represent the features of an effective control system, and is very important given the circumstances and needs of the company are in constant change. Internal controls, as discussed in the previous section, are not just specific procedures and activities but need to be addressed through all five components of the internal control system and so their involvement in implementing new revenue recognition accounting regulations should be supported through all components.

Demonstrating commitment to integrity and ethical values as one of the fundamental principles of the control environment is the responsibility of management and a higher level of governance structures. Governing structures have to demonstrate the required behavior as an example in terms of value development, philosophy and corporate governance.This implies promoting and supporting compliance with law and regulatory provisions, usually by formalizing demands in the form of policies, directives and procedures of conduct, codes of ethics and/or code of conduct and communication of required values (Committee of Sponsoring Organizations of the Treadway Commission, 2011 , pp.27-50). In the context of the acceptance of new standards, it is important that governing structures define the expected standards of conduct or "tone at the top" (Committee of Sponsoring Organizations of the Treadway Commission, 2011, p. 255) through communication, planning, resource allocation and monitoring over the application of standards, as well as through monitoring the risk assessment concerning new changes and the development of new internal controls (Burns, Steele & Groves, 2017, p.9). Due to its complexity with respect to former standards related to revenue recognition, the application of new standards requires a good understanding of revenue recognition issues, and in this regard, highly skilled professional staff who do not only possess expert knowledge related to specific standards but also about other topis, such as contracts that include a variable consideration, since it is also part of the revenue recognition (Almohashi, 2017).

Regarding the assessment of the risks arising from the application of new standards, it is important to establish the objectives of the standards themselves as a starting point for the identification of risks associated with these objectives (Burns, Steele & Groves, 2017, p.10). In this respect, it is important that transactions related to revenues are recorded on a timely basis , i.e. they are recorded within the reporting period in which they occurred, as well as determining the recorded transactions indeed occurred. So it is necessary to develop and design related internal control procedures and activities in order to prevent or detect advanced or delayed revenue recognition (Almohashi, 2017). Each of the five steps of the revenue recognition model has certain risks and the responsibility of the management structure is to assess the level of risk significance, assess the likelihood of occurrence of risks, consider the ways in which risks can be managed, and evaluate which activities, in this connection, need to be taken (Moeller, 2007, p.165). Internal control is a process, and it is therefore necessary to establish appropriate control activities closely related to previously identified risks (Moeller, 2007, p. 167), and some of the risks that may arise in the steps to be taken during revenue recognition are presented in the table below (Table 2), together with the guidelines for internal controls.

***Table 2** Risks concerning revenue recognition and considerations regarding internal control*

Steps	*Risk*	*Considerations regarding internal controls*
Step 1: *Identifing the contract with a customer*	Revenue is recognized when a contract does not exist Revenue is not recognized when a contract does exist	• Developing internal controls that identify contracts that meet the criteria according to new standard, • Re-evaluating the criteria for determining the contract if they have not originally complied with the criteria set by the standard in case of any change in the facts and the circumstanes that may affect them.
Step 2: *Identify the performance obligations in the contract*	Performance obligations are not identified according to new standard	• Identifying obligations to performance under the contract, • Assessment if a contract grant the customer the option to aquire additional goods or services, thereby providing him with the material right he would not receive without entering into a contract (e.g. a discount offering the possibility of increasing the usual discount for that commodity or service)[3], • Assessment if the goods or services promised by a contract, are distinct (such as sale of goods produced by an entity, resale of goods purchased by an entity, constructing, manufacturing or developing an asset on behalf of a customer) or it may be combined[4],, as well as determining whether a series of goods or services defined by contract can be considered as a single performance obligation.
Step 3: *Determine the transaction price*	Management does not use appropriate methods or assumptions for determining transaction price[5] which results in inaccurate assessments	According to IFRS 15:48, when determining the transaction price an entity must take into consideration the following: variable consideration and constraining estimates of variable consideration, the existence of a significant financing component in the contract, non-cash consideration, consideration payable to a customer. Considerations regarding internal controls in relation to those items are: • estimating the amount of variable consideration and constraining variable consideration, • re-evaluating the accuracy of judgements that served as basis when estimating variable consideration, • assessing the fair value of non cash considerations as well as determining non cash consideration, • determining significant financing component in a contract and consideration payable to customer.
Step 4: *Allocate the transaction price to the performance obligations in the contract*	Management does not use appropriate methods or assumptions for allocation of the transaction price to the performance obligations which results in inaccurate assessments	Internal controls relating to: • selecting the approach to determine the stand alone selling price, ie the "price at which an entity would sell a promised good or service separately to a customer " (IFRS 15: 77), taking into account "all information (including market conditions, entity-specific factors and information about the customer or class of customer) that is reasonably available to the entity" "IFRS 15:78, as well as the assessment of the stand alone selling price, • acknowledging the allocation of discounts and allocation of variable consideration (IFRS 15: 81-86) when determining the appropriate transaction price, • re-evaluating the accuracy of the assumptions used to determine the stand alone selling price.
Step 5: *Recognise revenue when (or as) the entity satisfies a performance obligation*	Revenue recognition before satisfying performance obligations	• „Determining whether performance obligations are satisfied at a point in time or over time, • Identifying when control transfers to the customer for a performance obligation satisfied at a point in time, • Measuring progress toward complete satisfaction of a performance obligation that is satisfied over time (i.e., the input and output methods).“

Source: (Burns, Steele & Groves, 2017, pp. 7-8)

[3] If this is the case, then „the customer in effect pays the entity in advance for future goods or services and the entity recognises revenue when those future goods or services are transferred or when the option expires.“ IFRS 15: B40

[4] „If a promised good or service is not distinct, an entity shall combine that good or service with other promised goods or services until it identifies a bundle of goods or services that is distinct. In some cases, that would result in the entity accounting for all the goods or services promised in a contract as a single performance obligation“ IFRS 15: 30

[5] „When (or as) a performance obligation is satisfied, an entity shall recognise as revenue the amount of the transaction price (which excludes estimates of variable consideration that are constrained in accordance with paragraphs 56–58) that is allocated to that performance obligation“ IFRS 15:46.

One of the fundamental control procedures is the segregation of duties. Segregating duties minimize the ability of an employee to make and hide mistakes and deceptions in performing their duties by giving different people the power to initiate a transaction, record transactions and maintain oversight over company assets. Each business transaction has stages of initiation, execution, monitoring and recording. The segregation or separation of duties implies the inclusion of more persons in the mentioned phases, enabling one person to check the other person. In the context of revenue recognition, it is important to distinguish between the following duties: "sales (allocate the transaction price), contract management (assignment obligations, identify contracts, and determine the transaction price), operations (deliver goods or render services to customers; satisfy performance obligations), accounting (maintain records and report financial transactions)" (Almohashi, 2017).

With regard to the information and communication component, it is important to develop certain communication methods and communication channels to enable information that includes accounting and operational changes to be communicated to employees in order to understand their responsibilities regarding internal controls (Burns, Steele & Groves, 2017 , p.11). Regarding monitoring activities, it is important to conduct ongoing or separate evaluations and to take corrective actions if any deficiencies are identified.

4. Conclusion

Numerous studies on cases of fraud and fraudulent financial reporting have shown that weak internal controls are a large problem for many companies around the world since it is an important factor that contributes to fraudulent financial reporting. Based on the results presented in the paper, it can be concluded that the issue of revenue recognition is a particularly important area in financial reporting due to the most common fraudulent financial statement fraud technique involves overstatements of revenues. Standards concerning revenue recognitions have changed and evolved in order to improve reporting on revenues as well as to enable and improve comparability of revenues globally. There is a great challenge on companies to adjust their internal control systems in order to enable fulfilling one of the internal control core objectives, provide reasonable assurance on reliability of the financial reporting. The ability of internal control system to adapt to emerging trends is one of its most significant features regarding the constant change in the business environment.

REFERENCES

AICPA (2016) ***AT Section 501 An Examination of an Entity's Internal Control Over Financial Reporting That Is Integrated With an Audit of Its Financial Statements***.

Almohashi, A. (2017) ***Internal Controls with The New Revenue Recognition Standard***, http://www.revenuerecognition.com/blog/internal-controls-with-the-new-revenue-recognition-standard, (accessed 02 February 2018)

Arel, B., Beaudoin, C. A. & Cianci, A. M. (2011) ***The impact of ethical leadership and the internal audit function on financial reporting decisions.*** *Working paper series.* http://ssrn.com/abstract=1756284 or http://dx.doi.org/10.2139/ssrn.1756284, (accessed 02 February 2018)

Association of Certified Fraud Examiners (2016) ***Report to the Nations on Occupational Fraud and Abuse, 2016 Global Fraud Study.*** ACFE.

Beasley, M. S., Carcello, J. V., Hermanson, D. R., (1999) ***Fraudulent Financial Reporting: 1987-1997, An Analysis of U.S. Public Companies***. New York: COSO.

Beasley, M. S., Carcello, J. V., Hermanson, D. R., Neal, T. L. (2010) ***Fraudulent Financial Reporting: 1998-2007, An Analysis of U.S. Public Companies.*** New York: COSO, Burns J., Steele A. & Groves A. (2017) ***Internal Control Considerations Related to Adoption of the New Revenue Recognition Standard.*** Heads up, Vol.24, Issue 13. Deloitte & Touche LLP

Centre for Audit Quality (2010) ***Deterring and detecting financial reporting fraud: A platform for action.*** https://www.thecaq.org/sites/default/files/deterring-and-detecting-financial-reporting-fraud-a-platform-for-action.pdf, (accessed 15 February 2018)

Committee of sponsoring Organizations of the Treadway Comission (1994) ***Internal control-integrated framework***. http://www.snai.edu/cn/service/library/book/0-framework-final.pdf, (accessed 03 February 2018)

Committee of Sponsoring Organizations of the Treadway Commission (2011) ***Internal Control-Integrated Framework (Exposure Draft).*** www.coso.org/documents/coso-framewor-body-V6.pdf, (accessed 02 February 2018)

Committee of Sponsoring Organizations of the Treadway Commission (2013) ***Internal Control — Integrated Framework Executive Summary.*** COSO.

Deloitte (2009) ***Ten things about financial statement fraud - third edition. A review of SEC enforcement releases, 2000–2008.*** Deloitte Forensic Center.

Deloitte (2017a) **IFRS 15 — *Revenue from Contracts with Customers.*** https://www.iasplus.com/en/standards/ifrs/ifrs15, (accessed 08 Feabruary 2018)

Deloitte (2017b) **ACS 606 – *Revenue from contracts with customers,*** https://www.iasplus.com/en-us/standards/fasb/revenue/asc606, (accessed 08 February 2018)

Deloitte (2018) ***Revenues from contracts with customers – A guide to IFRS 15,*** https://www.iasplus.com/en/publications/global/guides/a-guide-to-ifrs-15/file, (accessed 08 March 2018)

Donelson D. C., Ege M. S. & McInnis J. M. (2017) ***Internal Control Weaknesses and Financial Reporting Fraud.*** A Journal of Practice & Theory, August 2017, Vol. 36, No. 3, pp. 45-69

Ernst & Young (2016) ***Corporate misconduct — individual consequences Global enforcement focuses the spotlight on executive integrity.*** 14th Global Fraud Survey 2016. EY.

FASB (2014) ***News Release: IASB and FASB issue converged standard on revenue recognition.*** http://www.fasb.org/cs/Satellite?c=FASBContent_C&cid=1176164075286&pagename=FASB%2FFASBContent_C%2FNewsPage, (accessed 08 February 2018)

Golden, T., W., Skalak, S. L., Clayton, M. M. (2006) ***A guide to forensic accounting investigation*.** New Jersey: John Wiley & Sons http://160592857366.free.fr/joe/ebooks/Corporate%20Finance/Wiley%20A%20Guide%20to%20Forensic%20Accounting%20Investigation.pdf, (accessed 1 February 2018)

Hogan Chris E., Rezaee Zabihollah, Riley Jr. Richard A. & Velury Uma K. (*2007*) ***Financial Statement Fraud: Insights from the Academic Literature.*** Executive Summary. file:///D:/%23DOWNLOAD%23/Financial_Statement_Fraud__Insights_from_the_Acad%20(1).pdf, (accessed 15 February 2018)

Hong Kong Institute of Certified Public Accountants (2005). ***Internal Control and Risk Management - A Basic Framework.*** http://aci.kpmg.com.hk/docs/Internal_control_Guide.pdf, (accessed 08 February 2018)

IFRS 15 — Revenue from Contracts with Customers/ Commission Regulation (EU) 2016/1905 of 22 September 2016 amending Regulation (EC) No 1126/2008 adopting certain international accounting standards in accordance with Regulation (EC) No 1606/2002 of the European Parliament and of the Council as regards International Financial Reporting Standard 15 (Text with EEA relevance), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R1905 (accessed 01 February 2018)

KPMG (2017) ***Revenue: Top 10 Differences between IFRS 15 and ASC 606,*** http://www.kpmg-institutes.com/institutes/ifrs-institute/articles/2017/01/top-10-differences-between-ifrs-15-and-asc-topic-606.html, (accessed 15 February 2018)

Liu, Kelvin X. & Wright, A.M. (2015***) Managers' unethical fraudulent financial reporting: the effects of control strength and control framing.*** Journal of Business Ethics (2015)129, pp.295-310

Moeller, R. R. (2007) ***COSO Enterprise Risk Management-Understanding the New Integrated ERM Framework.*** John Wiley & Sons, New Jersey.
Sawyer, L. B., Dittenhofer, M. A., i Schneier, J. H. (2003) ***Sawyer's Internal Auditing, 5th Edition***. Institute of Internal Auditors (IIA), Altamonte Springs, Florida.
Soltani, B. (2009) ***Revizija: Međunarodni pristup.*** Mate, Zagreb.
Soltani B., (2014) ***The anatomy of corporate fraud: a comparative analysis of high profile American and European Corporate scandals.*** *Journal of Business Ethics*, 120, pp. 251-274.
Somayyeh Hosseini, N. (2015) ***Financial ratios between fraudulent and non-fraudulent firms: Evidence from Teheran Stock Exchange***. *Journal of Accounting and Taxation,* 7(3), pp. 38-44.
Stubben, S. (2009) ***Discretionary Revenues as a Measure of Earnings Management***, https://ssrn.com/abstract=1135811 or http://dx.doi.org/10.2139/ssrn.1135811, (accessed 03 February 2018)
Tušek, B., Žager L., Barišić I. (2014) ***Interna revizija***. Hrvatska zajednica računovođa i financijskih djelatnika, Zagreb.

Davor Zoričić, PhD, Assistant Professor
University of Zagreb, Faculty of Economics & Business
Kennedy sq 6, Zagreb, Croatia
Phone: +385 1-238 3103Fax: +385 1 233 5633
E-mail address: dzoricic@efzg.hr

Denis Dolinar, PhD, Assistant Professor
University of Zagreb, Faculty of Economics & Business
Kennedy sq 6, Zagreb, Croatia
Phone: +385 1-238 3103 Fax: +385 1 233 5633
E-mail address: ddolinar@efzg.hr

Zrinka Lovretin Golubić, MA, Teaching and Research Assistant
University of Zagreb, Faculty of Economics & Business
Kennedy sq 6, Zagreb, Croatia
Phone: +385 1-238 3122 Fax: +385 1 233 5633
E-mail address:zlovretin@efzg.hr

A TEST OF GLOBAL MINIMUM VARIANCE PORTFOLIO IN THE CROATIAN CAPITAL MARKET

TESTIRANJE PORTFOLIJA S NAJMANJOM VARIJANCOM NA HRVATSKOM TRŽIŠTU KAPITALA

ABSTRACT

Research for the developed markets present a breakthrough in efficient asset allocation as optimization techniques are introduced which are able to generate portfolios able to outperform a market-capitalization weighted index presenting a counterpart. Similar attempts have either not yet been tested in the Croatian capital market or have failed, as in the case of Maximum Sharpe Ratio (MSR) portfolio estimation, which can be attributed to the illiquid and undeveloped market. However, research can be found suggesting that it makes sense to use Global Minimum Variance (GMV) portfolio as a proxy for the optimal benchmark portfolio (MSR) if the out-of-sample estimation of such benchmark involves a high level of estimation risk. In this paper we explore this possibility with the main goal of testing an investment strategy which could offer a better risk-reward ratio to investors relative to CROBEX index. The research examined CROBEX index revisions in the period from March 2005 till September 2017 and the results show an improvement over MSR portfolio out-of-sample estimation. However, overall the improvement is still not significant enough to outperform the cap-weighted CROBEX index. Also, the results vary significantly with the change in restrictions imposed on the portfolio weights in the optimization process. The greatest concern regarding this issue is that the increase in performance can occur at the expense of level of deconcentration in portfolio which can be significantly below the level of CROBEX index leading to high exposures to few stocks, especially in undeveloped market. Moreover, unlike for the developed markets our findings suggest that it is not possible to improve portfolio performance (and therefore also its' deconcentration) by combining GMV portfolio with MSR or naïve, equally-weighted portfolios. However, based on the obtained results and other research we propose approaches to efficient benchmark estimation which could be used in combination with the GMV portfolio.

Key words: *minimum variance portfolio, efficient asset allocation, undeveloped and illiquid markets.*

SAŽETAK

Istraživanja za razvijena tržišta pokazuju značajan iskorak na području efikasne alokacije imovine primjenom optimizacijskih tehnika koje rezultiraju portfolijima boljih performansi od usporedivog indeksa baziranog na tržišnoj kapitalizaciji. Na hrvatskom tržištu kapitala slični pristupi ili još nisu ispitani ili su dali loše rezultate, kao u slučaju pokušaja procjene portfolija s najvećim Sharpeovim omjerom (MSR), što se povezuje s nelikvidnošću i nerazvijenošću tržišta. Međutim, istraživanja u svijetu sugeriraju da je bolje procijeniti portfolio s najmanjom varijancom (GMV) kao aproksimaciju za optimalni „benchmark“ portfolio (MSR) ako procjena izvan uzorka uključuje visok rizik procjene. U radu se ispituje upravo takva mogućnost s ciljem da se na hrvatskom tržištu ispita strategija ulaganja koja investitorima nudi bolji odnos rizika i nagrade nego CROBEX indeks. Istraživanje je provedeno na revizijama CROBEX indeksa od ožujka 2005. do rujna 2017. godine, a dobiveni rezultati su bolji u odnosu na procjenu MSR portfolija izvan uzorka. Međutim, rezultati i dalje ne predstavljaju dovoljno poboljšanje kako bi performanse portfolija bile bolje od CROBEX indeksa baziranog na tržišnoj kapitalizaciji. Također, rezultati značajno variraju ovisno o ograničenjima koja se primjenjuju na udjele u portfoliju prilikom provođenja optimizacije. U tom pogledu najveći razlog za zabrinutost predstavlja činjenica da je poboljšanje performansi moguće postići nauštrb razine dekoncentracije u portfoliju koja može biti značajno ispod razine CROBEX indeksa što može značiti visoku izloženost malom broju dionica, pogotovo na nerazvijenom tržištu. Nadalje, za razliku od istraživanja za razvijena tržišta nalazi ovog istraživanja upućuju na činjenicu da nije moguće poboljšati performanse portfolija (a zbog toga niti dekoncentraciju) kombinirajući GMV portfolio s MSR portfolijem ili portfolijem s jednakim udjelima (naivna diversifikacija). Međutim, temeljem dobivenih rezultata i drugih provedenih istraživanja predlažu se pristupi za procjenu efikasnog „benchmark-a“ koji bi se mogli koristiti u kombinaciji s GMV portfolijem.

Ključne riječi: *portfolio s najmanjom varijancom, efikasna alokacija imovine, nerazvijena i nelikvidna tržišta*

1. Introduction

In the last decade of the 20th century papers by Haugen and Baker (1991) and Grinold (1992) provided evidence of market cap-weighted mean-variance inefficiency and opened the doors for research related to efficient benchmarks. Amenc et al. (2013) provided an overview of research approaches established in years that followed suggesting different strategies. Some of them seemed to easily outperform the cap-weighted counterpart in terms of risk-reward ratio without the need for sophisticated optimisation algorithms such as equally-weighted (EW)[1] or fundamentally-weighted (FW)[2] portfolios. However, the problem with such simple strategies is that too many assumptions have to be satisfied in order for them to be related to optimal mean-variance efficiency (EW portfolio) or that their relationship with Modern portfolio theory is generally unclear (FW portfolios). In this regard the most important paper is the one by Amenc et al. (2011) providing empirical evidence in favour of the Maximum Sharpe Ratio (MSR) portfolio which is the optimal portfolio according to the Modern portfolio theory. Nevertheless, Amenc et al. (2013), by expanding the work of De Miguel et al. (2009), point out thatin the presence of estimation risk it could make sense to settle for estimation of a benchmark portfolio which is not mean-variance optimal by construction, such as the Global Minimum Variance (GMV) portfolio, rather than to

[1]Amenc et al. (2006) provide overview of EW portfolios performance relative to cap-weighted indices for several developed markets.
[2] FW portfolios were introduced by Arnott et al. (2005).

pursue the MSR portfolio. The underlying logic is that less optimal portfolio requires less parameters to estimate therefore reducing out-of-sample estimation error and can serve as a proxy for the optimal portfolio. De Miguel et al. (2009) even argue that if estimation risk is high even improved parameter estimates will not enable portfolios based on mean-variance optimisation to outperform the naïve EW benchmark out-of-sample.

In the case of Croatian capital market research by Zoričić et al. (2014) has provided evidence that the market cap-weighted index (CROBEX) is mean-variance inefficient like its developed markets counterparts. However, an attempt to estimate MSR portfolio out-of-sample by Dolinar et al. (2017) has underperformed severely.As discussed above there is obviously too much estimation risk involved in the undeveloped and illiquid market which is corroborated by the finding that EW portfolio is not able to outperform the cap-weighted index as in the developed markets. Still it remains unclear regarding the mentioned MSR out-of-sample estimation what the main sources of failure were since it requires the estimation of 3 parameters (expected returns, volatilities and correlations of stocks).

Therefore, the purpose of this paper is threefold. First, we aim to test the use of GMV portfolio as a proxy for the MSR portfolio in order to find out if GMV portfolio can outperform the cap-weighted benchmark in an undeveloped and illiquid market. Secondly, by testing the GMV portfolio as a proxy for the MSR portfolio we hope to determine the sources of MSR portfolio underperformance (whether it had anything to do with the estimation of volatilities and correlations of stocks – the required inputs for the GMV estimation). Lastly, we will exploit the GMV portfolio estimation as an opportunity to test if improved estimation of volatilities and correlations (collected by the covariance matrix) is possible in the undeveloped and illiquid market. To this purpose we apply the improved estimation of covariance matrix based on statistical shrinkage method proposed by Ledoit and Wolf (2004) which was also used by Dolinar et al. (2017) for the purpose of MSR portfolio out-of-sample estimation in order to be able to compare the research findings properly.

2. Methodology and data

Observation period in this paper covers the period beginning in March 2005 and ending in September 2017. March and September were chosen for the beginning and end of the period because regular CROBEX index revisions begin and end in these months every year. Irregular revisions of CROBEX index were not taken into account for the purpose of this analysis thus a total of 25 regular revisions were considered in which the number of constituents of CROBEX index varied from 17 to 32 stocks (with average of 25) in the observed period. Altogether 62 stocks that were listed on the Zagreb Stock Exchange (ZSE) and included in the CROBEX index at some point in time were analysed.

We follow Amenc et al. (2013) whose research suggested that it makes sense to use GMV portfolio as a proxy for the optimal benchmark portfolio MSR if the out-of-sample estimation of such benchmark involves a high level of estimation risk.This is due to the fact that in the case of GMV portfolio estimation one can focus on covariance matrix estimation, as only correlations and volatilities are required as inputs for the optimisation process, and forego the estimation of expected returns which are the dominant source of estimation error(Amenc et al., 2013, 31).

In this paper the input needed for the estimationof GMV portfolios related to stocks' covariance matrix is estimated in two ways – using standard sample covariance and by using the improved estimation approach proposed by Ledoit and Wolf (2004) referred to as statistical shrinkage. The latter was already employed in similar research by Dolinar et al. (2017) in whichMSR portfolio was estimated out-of-sample. However, the improvement in parameter estimation itself was not analysed as explained previously. Statistical shrinkage method can be summarised briefly as the reduction of estimation error present in the sample covariance matrix by pulling the most extreme coefficients towards more central values which is expressed by the following formula(Dolinar et al., 2017, 16; Ledoit and Wolf, 2004,113):

$$\Sigma = \delta F + (1 - \delta) S \tag{1}$$

where $\boldsymbol{\Sigma}$represents the estimation of true covariance matrix of the expected returns, $\boldsymbol{S}$represents the sample covariance matrix of returns and $\boldsymbol{F}$represents covariance matrix estimator (called shrinkage target). In order to simplify the matrix $\boldsymbol{F}$, we follow Ledoit and Wolf (2004) suggestion and applythe constant correlation model. Thus we use the average of all the sample correlations as the estimator of common constant correlation and the matrix $\boldsymbol{F}$ represents the sample constant-correlation covariance matrix of returns. δ represents the shrinkage constant which is used for minimization of the expected value of loss in the process of estimation of true covariance matrix and is calculated by applying the formulas below (Ledoit and Wolf, 2004, 117-118):

$$\hat{\delta} = \max\left\{0, \min\left\{\frac{\hat{\kappa}}{T}, 1\right\}\right\} \tag{2}$$

$$\hat{\kappa} = \frac{\hat{\pi} - \hat{\rho}}{\hat{\gamma}} \tag{3}$$

$$\hat{\pi} = \sum_{i=1}^{N}\sum_{j=1}^{N}\left\{\frac{1}{T}\sum_{t=1}^{T}\left[(r_{i,t} - \bar{r}_i)(r_{j,t} - \bar{r}_j) - s_{ij}\right]^2\right\} \tag{4}$$

$$\hat{\rho} = \sum_{i=1}^{N}\hat{\pi}_{ii} + \sum_{i=1}^{N}\sum_{j=1, j\neq i}^{N}\left\{\frac{\bar{u}}{2}\left(\sqrt{\frac{s_{jj}}{s_{ii}}}\hat{\vartheta}_{ii,ij} + \sqrt{\frac{s_{ii}}{s_{jj}}}\hat{\vartheta}_{jj,ij}\right)\right\} \tag{5}$$

$$\hat{\gamma} = \sum_{i=1}^{N}\sum_{j=1}^{N}(f_{ij} - s_{ij})^2 \tag{6}$$

$$\hat{\vartheta}_{ii,ij} = \frac{1}{T}\sum_{t=1}^{T}\left\{\left[(r_{i,t} - \bar{r}_i)^2 - s_{ii}\right]\left[(r_{i,t} - \bar{r}_i)(r_{j,t} - \bar{r}_j) - s_{ij}\right]\right\} \tag{7}$$

where s_{ij} represents values from the sample covariance matrix $\boldsymbol{S}$, f_{ij} represents values from the sample constant-correlation covariance matrix $\boldsymbol{F}$, and $\bar{u}$is the average correlation coefficient of stock returns in the sample.

On the other hand, ordinary covariance matrix is obtained by estimating sample variances (s_{ii}) and covariances (s_{ij}) byusing the familiar formulas:

$$s_{ii} = \frac{\sum_{t=1}^{T}(r_{i,t} - \bar{r}_i)^2}{T - 1} \tag{8}$$

$$s_{ij} = \frac{\sum_{t=1}^{T}(r_{i,t} - \bar{r}_i)(r_{j,t} - \bar{r}_j)}{T - 1} \tag{9}$$

where $r_{i,t}$is the realized return of stock i in period t, $\bar{r}_i$is the arithmetic average of the realized returns, and T represent number of periods in the sample.

As in Dolinar et al. (2017) for both of the above mentioned approaches related to estimation of stocks' covariance matrix, the GMV portfolio estimation is always performed for the actual (at the time) CROBEXindex composition.[3] This implies that for every CROBEX index revision new set of inputs (estimation of (co)variances from the pre-revision (sample) period) and new outcomes (estimation of an out-of-sample performance of the GMV portfolios) have to be made.

More specifically, we observe a 3-year time-sample of monthly excess total returns[4] for each stock (constituent) before each CROBEX index revision in order to estimate updated ex-post covariance

[3] The CROBEX index is revised twice a year (in March and September).
[4]Excess total return is a sum of capital gain and dividend yield (where applicable) above risk free rate. The yield on the Croatian three-month treasury-bill at the moment of issuing (denominated in local currency) is used as a proxy for the risk-free rate.

matrix. This covariance matrix is then used in the optimisation process to estimate optimal weights of constituents for the GMV portfolios. Based on estimated covariance matrix the GMV portfolio's weights are found by solving the following problem:

$$w^* = \underset{w}{\arg min} \frac{\Sigma^{-1} 1}{1' \Sigma^{-1} 1} \tag{10}$$

Here $\boldsymbol{w^*}$is the vector of weights (i.e.optimal weights) that meets above optimisationproblem, $\boldsymbol{1}$ is the vector of ones, and $\boldsymbol{\Sigma}$ is the covariance matrix for expected returns of these constituents.

When estimating out-of-sample performance of GMV portfolios their semi-annual return[5] is observed in order to correspond with the CROBEX index revision cycles. In this paper 25 regular revisions of CROBEX index are covered (March 2005 – September 2017). Thus rolling window of sample/out-of-sample periods is carried over the fifteen and half years.

That means that GMV portfolio has been estimated 25 times, for each approach regarding estimation of stocks' covariance matrix separately, i.e. for each GMV portfolio time-series of 25 semi-annual returns is obtained. Finally, out-of-sample performance of GMV portfolios for whole observation period is compared to the CROBEX index which is the market-cap counterpart.

In addition, in order to achieve greater portfolio deconcentration in the GMV portfolios, in the process of optimisation restriction on minimum weight of a constituent is imposed by defining the lower limit as follows:

(11)

where w_i* represents optimal weight of stock *i*in GMV portfolio*, N*represents the number of constituents in each revision and lambda (λ) represents a flexibility parameter. Such approach which involves restrictions related to (in this case) lower limit was introduced by Amenc et al. (2011). Higher lambda implies weaker constraint leading to higher concentration of GMV portfolio.The use of weaker constraints pronounces a serious concern regarding minimum variance portfolios as they are typically heavily concentrated in assets with the lowest volatility (Amenc et al., 2013, 31). In this paper lambda is set to 4, 1.5 and 1 (where λ=1 reduces a GMV portfolio to equally-weighted portfolio). In the case of λ=4 and λ=1.5 minimum weight of a stock in the GMV portfolio varies in range from 0.78% – 1.47% and 2.08% – 3.92% respectively depending on the number of constituents in each revision.Thus,altogether four different GMV portfolios are tested out-of-sample: sample covariance GMV and improved covariance estimation GMV for λ=4 and λ=1.5 and compared to the performance of equally-weighted (EW) portfolio (λ=1)[6] and CROBEX index.

3. Research findings

The results for two different covariance estimation approaches are reported in separate tables – Table 1 and Table 2. Average returns refer to geometric mean and were calculated based on semi-annual returns while volatility refers to their standard deviation.The risk-reward ratio as a measure taking into account both these parameters is also calculated serving as portfolio performance indicator. Since it is obtained by dividing portfolio return by portfolio risk (volatility) the greater the value the better the portfolio performance. Due to appearance of negative values of portfolio returns in the analysed period a modification to the ratio is used as proposed by Israelsen (2005).[7]

[5] Here dividend yield is not taken into account. The reason for that is the fact that CROBEX index is a price index. Also, risk free rate is not subtracted in this case.

[6] Equally-weighted (EW) portfolio is a portfolio containing equal weights for all constituents. Therefore, the covariance matrix estimation becomes irrelevant.

[7] When negative returns are present, risk-reward ratio should be modified in order to accurately measure the performance of a portfolio. Namely, if two portfolios exhibit the same negative return, portfolio with larger volatility could be favoured given its lower i.e. less negative risk-reward ratio. Israelsen (2005) therefore proposed the use of modified risk-reward ratio by adding an exponent to its denominator as follows:

In order to provide a thorough performance testing robustness check is carried out by dividing observation period into two sub-periods: period of high and low volatility. The breakdown of the observation period is based on the trend in the evolution of standard deviation of the out-of-sample semi-annual returns over time. Beginning in March 2005 the standard deviation of returns is increasing till the end of the September 2009 and starts to decrease afterwards towards the end of the analysedperiod. In both tables results are shown for the two periods separately as well as the overall results.

Table 1 *Out-of-sample performance and robustness of the estimated GMV portfolios –sample covariance*

		CROBEX	GMV (λ=4)	GMV (λ=1.5)	EW
Whole observed period (March 2005 – September 2017)	Average return	-0.28%	-2.57%	-2.35%	-2.86%
	Volatility	23.15%	21.29%	23.81%	25.51%
	Risk-reward ratio	-0.012	-0.121	-0.099	-0.112
	Modified risk-reward ratio	-0.00064	-0.00547	-0.00558	-0.00728
Period of high volatility (March 2005 – September 2009)	Average return	1.43%	3.64%	2.66%	-0.69%
	Volatility	35.96%	30.54%	36.04%	39.32%
	Risk-reward ratio	0.040	0.119	0.074	-0.017
	Modified risk-reward ratio	0.03986	0.11910	0.07382	-0.00270
Period of low volatility (September 2009 – September 2017)	Average return	-1.23%	-5.89%	-5.05%	-4.05%
	Volatility	11.82%	12.62%	11.98%	13.15%
	Risk-reward ratio	-0.104	-0.467	-0.422	-0.308
	Modified risk-reward ratio	-0.00145	-0.00744	-0.00606	-0.00533

Source: Authors' calculation

As depicted in Table 1, estimation based on sample covariance succeeded to produce portfolio which is performingbetter compared to cap-weighted counterpart only in the period of high volatility. The outperformance is reduced when tighter restrictions are imposed on the portfolio weights. Interestingly, for λ=1.5 in the period of high volatility risk is even increased (albeit slightly). Like in Dolinar et al. (2017) results confirm that when higher concentration is allowed possibility of concentration in certain stocks improves the performance of portfolio but surprisingly this does not hold in the period of low volatility.

Table 2 *Out-of-sample performance and robustness of the estimated GMV portfolios – improved covariance estimation*

		CROBEX	GMV (λ=4)	GMV (λ=1.5)	EW
Whole observed period (March 2005 – September 2017)	Average return	-0.28%	-1.16%	-1.73%	-2.86%
	Volatility	23.15%	20.85%	23.68%	25.51%
	Risk-reward ratio	-0.012	-0.056	-0.073	-0.112
	Modified risk-reward ratio	-0.00064	-0.00242	-0.00410	-0.00728
Period of high volatility (March 2005 – September 2009)	Average return	1.43%	4.17%	2.70%	-0.69%
	Volatility	35.96%	30.87%	36.07%	39.32%
	Risk-reward ratio	0.040	0.135	0.075	-0.017

$[\sigma_p]^{1}(R_p/(\mathrm{absolute}(R_p)))$, where σ_p is standard deviation of portfolio return (volatility measure) and R_p is portfolio return. When portfolio return is positive there is no difference between the standard and modified risk-reward ratio.

		CROBEX	GMV (λ=4)	GMV (λ=1.5)	EW
	Modified risk-reward ratio	0.03986	0.13517	0.07482	-0.00270
Period of low volatility (September 2009 – September 2017)	Average return	-1.23%	-4.04%	-4.14%	-4.05%
	Volatility	11.82%	11.38%	11.88%	13.15%
	Risk-reward ratio	-0.104	-0.355	-0.348	-0.308
	Modified risk-reward ratio	-0.00145	-0.00460	-0.00492	-0.00533

Source: Authors' calculation

In the case of improved estimation of covariance matrix (the statistical shrinkage method) results in Table 2 again confirm dominance of the GMV portfolio compared to cap-weighted counterpart onlyfor the period of high volatility. Also, just as in Table 1, portfolio performance deteriorates as tighter restrictions are imposed on weights and portfolio volatility increases slightly above the CROBEX index level.

However, in the low volatility period and overall we find that the GMV portfolio is still not able to outperform the cap-weighted benchmark. Regardless of the covariance estimation method the drop in portfolio return by far surpasses the reduction in volatility of the portfolio although the difference between the GMV portfolio and CROBEX is significantly reduced when improved covariance estimation is used.Therefore, the results suggest that the GMV portfolio based on the improved covariance estimation dominates the pure sample-based covariance GMV portfolio. Nonetheless, it should be noted that although the risk-reward ratio is higher in the case of improved covariance estimation GMV for all analysed periods its dominance could be disputed in the period of high volatility if portfolio volatilities alone are compared for the GMV portfolios analysed. Namely, in the mentioned period volatility of the improved covariance estimation GMV portfolio is very close (even slightly higher) than for the pure sample-based covariance estimation counterpart. This is surprising as one would expect to find higher risk-reward ratio always based on lower portfolio volatility due to improved covariance estimators (rather than on higher portfolio returns which is the case here). Therefore, we find that improved covariance estimation GMV portfolio's overall dominance regarding volatility alone is driven by its dominance in the low volatility period which is unexpected.

Generally, research findings seem to support the view of Ledoit and Wolf (2004) that traditional estimation using historical covariance should not be used given that enhanced alternative is available even in illiquid and undeveloped markets. Based on the findings in the high volatility period, however, it should be added that further improvements to covariance estimation are probably possible and should be pursued.

A few further comments should be added to complete the analysis. First, it should be noted that research findings suggest that in the illiquid and undeveloped markets portfolio concentration has to increase in order to improve performance of the proposed alternative to the market cap-weighted benchmark.[8]This is in line with previous findings by Dolinar et al. (2017) and Zoričić et al. (2014) but stands in contrast with research for the developed markets (see for instance Amenc et al. (2006) and Amenc et al. (2011)) where, due to much larger number of stocks included in the cap-weighted index, its ill-diversification and concentration are much more emphasized. Therefore, the use of alternative weighting schemes results in greater deconcentrationleading to increased diversification

[8] In the observed portfolios deconcentration level on average stood at cca. 18% and just below 40% for GMV portfolios with λ=4 and λ=1.5 respectively. At the same time the deconcentration level of CROBEX index stood at around 50%.

Portfolio deconcentration level is calculated by using the following expression $\left(N \cdot \sum_{i=1}^{N} w_i^2\right)^{-1}$.

effect even if naïve equal weighting is employed. When more sophisticated weighting schemes are considered in order to increase deconcentration restrictions are imposed not only to minimal but also to maximal weights in portfolio. Introducing restrictions to maximal weights in our research only reduced performance of GMV portfolios in line with the above explanation, therefore the results are not reported.This implies that in the case of undeveloped markets the need to estimate parameters accurately is even more pronounced with low liquidity presenting a big obstacle to such efforts.

Secondly, in reference to the introductory section of the paper, if findings of this paper are compared to Dolinar et al. (2017) it can be concluded that the GMV portfolio by far outperforms the MSR portfolio on an out-of-sample estimation basis. Furthermore, it can be noted that the MSR and GMV portfolios cannot compete with CROBEX index even if they are combined in a GMV-MSR portfolio as, quite obviously, the MSR failed primarily due to poor estimation of stocks' returns and cannot contribute to GMV-MSR portfolio by increasing the portfolio return. In the Croatian capital market the same goes for the EW portfolio (again quite opposite to the research findings for the developed markets).Such diversification and further optimisation approaches are presented in the Amenc et al. (2012). An interesting portfolio in this context to consider is a Risk Parity (RP) portfolio introduced by Maillard et al. (2010) as it is based on the same required inputs as the GMV portfolio but weights are obtained based on equal risk contribution of its constituents.Therefore, more sophisticated approachesare warranted in the future to build on GMV portfolio's volatility reduction.

4. Conclusion

This paper conducts out-of-sample testing of the GMV portfolio in the Croatian capital market motivated by the research for the developed markets providing evidence in support of the mean-variance efficient benchmarks which outperform the market cap-weighted indices. Further motivation for the research was provided by the failure of the MSR portfolio estimation attempt for the Croatian capital market by Dolinar (2017) which warranted determination of the sources of failure. The findings of this research provide evidence in support of the view that the failure of the MSR portfolio can be attributed to poor estimation of stocks' expected returns as the analysed GMV portfolios outperformed the MSR portfolio. However, they still did not outperform the cap-weighted counterpart (CROBEX index) as the reduction in GMV portfolio return came at the expense of even greater reduction in portfolio return.

We also find that the improved estimation of covariance matrix tested in the paper generally works even in undeveloped and illiquid setting as it improves GMV portfolio's volatility and risk-reward ratio. However, during the period of high market volatility the improved covariance estimators seem to perform slightly worse (quite surprisingly) than the sample-based ones making the case for further improvements in covariance matrix estimation.

Furthermore, the results of the research show that GMV portfolio's performance is improved when higher concentration in portfolio is allowed making it far more concentrated than the cap-weighted counterpart which is in contrast to the developed markets as demonstrated in e.g. Amenc et al. (2011).A small number of stocks in the Croatian capital market and therefore also in the CROBEX index is perceived as the main cause of this difference. More importantly, practical implication arising based on the finding is that in the case of undeveloped markets the need to estimate parameters accurately in order to outperform the cap-weighted benchmark is even more pronounced. Low liquidity presents the biggest challenge to such efforts.

Future research should attempt to further improve the covariance matrix estimation as suggested by the research results in this paper. To this purpose Amenc et al. (2011) propose principal components analysis as a method which could be employed. Also, basedon the findings of this research the estimation of MSR portfolio is unlikely to be improved and cannot be combined in a portfolio with GMV to compete with cap-weighted benchmark. The same goes for the EW portfolio. However, other strategies should be considered in order to try and estimate a portfolio which could on its own or in combination with the GMV portfolio offer a more efficient risk-reward ratio than the market cap-weighted portfolio in undeveloped and illiquid market.In this regard Risk Parity (RP) portfolios introduced by Maillard et al. (2010) should be tested in the Croatian capital market and diversification approaches presented in Amenc et al. (2012) should be pursued.

REFERENCES

Amenc, N., Goltz, F., Le Sourd, V. (2006): ***Assessing the Quality of Stock Market Indices: Requirements for Asset Allocation and Performance Measurement***,Nice: An EDHEC Risk & Asset Management Research Centre Publication.

Amenc, N., Goltz, F., Lodh, A., Martellini, L. (2012): ***Diversifying the Diversifiers and Tracking the Tracking Error: Outperforming Cap-Weighted Indices with Limited Risk of Underperformance***, The Journal of Portfolio Management, Vol. 38, No. 3, pp. 72-89.

Amenc, N., Goltz, F., Martellini, L. (2013): ***Smart Beta 2.0,*** Nice, France: EDHEC-Risk Institute.

Amenc, N., Goltz, F., Martellini, L., Retkowsky, P. (2011): ***Efficient Indexation: An Alternative to Cap-Weighted Indices***, The Journal of Investment Management, Vol. 9, No. 4, pp. 1-23.

Arnott, R., Hsu, J., Moore, P. (2005): ***Fundamental Indexation***, Financial Analysts Journal, Vol. 61, No. 2, pp. 83-99.

De Miguel, V., Garlappi L., Uppal. R. (2009): ***Optimal versus Naive Diversification: HowInefficient is the 1/N Portfolio Strategy?,*** Review of Financial Studies, Vol. 22, No. 5, pp. 1915-1953.

Dolinar, D., Zoričić, D., Kožul, A. (2017):***Towards the Estimation of an Efficient Benchmark Portfolio: The Case of Croatian Emerging Market***, Zagreb international review of economics & business, Special Conference Issue, April, pp. 13-24.

Grinold, R. C. (1992):***Are Benchmark Portfolios Efficient?***, The Journal of Portfolio Management, Vol. 19, No. 1, pp. 34-40.

Haugen, R. A., Baker, N. L. (1991):***The Efficient Market Inefficiency of Capitalization-Weighted Stock Portfolios***, The Journal of Portfolio Management, Vol. 17, No. 3, pp. 35-40.

Israelsen, C. L. (2005): ***A refinement to the Sharpe ratio and information ratio,*** Journal of Asset Management, Vol. 5, No. 6, pp. 423-427.

Ledoit, O., Wolf, M. (2004):***Honey, I shrunk the sample covariance matrix,*** Journal of Portfolio Management, Vol. 30, No. 4, pp. 110-119.

Maillard, S., Roncalli, T., Teiletche, J. (2010): ***The Properties of Equally Weighted Risk Contribution Portfolios***, The Journal of Portfolio Management, Vol. 36, No. 4, pp. 60-70.

Zoričić, D., Dolinar, D., Kožul, A. (2014):***The Market Index Benchmark and Adequate Compensation for Systematic Risk in an Illiquid and Undeveloped Financial Market***, in Miloš Sprčić, D. (Ed.) Risk Management: Strategies for Economic Development and Challenges in the Financial System, New York, USA: Nova Science Publishers, Inc., pp. 257-277.

10

Umjesto zaključka

Instead of a conclusion

Umjesto zaključka

Sudionici Simpozija i ove godine uspješno su koristili Einsteinovu misao „mašta je važnija od znanja“ s obzirom kako radovi obiluju prijedlozima i vizijama za razvoj ne samo istočne Hrvatske, već i cijele RH. Kroz većinu radova provlači se vizija o bržim mogućnostima gospodarskog razvoja, ako bi se svi potencijali koje Regija ima iskoristili uz podršku pozitivnih zakonskih odrednica i programa.

Najviše je radova u tematskom području „Regionalni razvoj – izazovi i prilike“. Autori pretežno obrađuju mogućnosti razvoja kontinentalnog turizma s obzirom na prirodne potencijale, kulturnu i sakralnu baštinu, etno i eko vrijednosti Regije. Predlažu organizacijski pristup ponude turističkih sadržaja, povezanost plave i zelene linije kroz razne oblike suradnje i povezanosti kako bi se postigao viši nivo ponude. No, nije izostao niti interes za tematsko područje „Financijske institucije“. Autori ukazuju na problem bankarskog sektora te njihov utjecaj na rast malih i srednjih poduzeća, obiteljskih farmi, na razvoj turizma i općenito razvoj poduzetništva. Obrađeni su primjeri iz prakse stranih zemalja, analiziraju se inozemna izravna ulaganja, funkcije interne revizije i kontrole, pitanje fiskalne konsolidacije, problem zaduženosti kućanstva, te stanje na hrvatskom tržištu kapitala.

Dosta veliki interes pokazan je i za tematsko područje „Ljudski kapital u funkciji društveno-ekonomskog razvoja regije“ . Autori obrađuju problematiku emigracije i tržište rada, značaj ljudskog i društvenog kapitala, društveno – gospodarski doprinos aktivnih umirovljenika treće životne dobi, pitanje formalnog i neformalnog obrazovanja, model visokoškolskog ekonomskog obrazovanja za potrebe digitalnog doba, potrebe poduzetničkog obrazovanja, te inovacijsku i radnu učinkovitost.

Radovi tematskog područja „Novi trendovi u razvoju gospodarstva“ ukazuju na potrebu za postignućima konkurentnosti i inovativnosti, kao i brigu o kontroli kvalitete u poslovanju, utjecaj tehnoloških promjena u suvremenim organizacijama, problematiku internetskog poslovanja, digitalno poduzetništvo, problem postizanja akreditacije tvrtke programom kvalitete, inovacijsko mjerenje i uspješnost inovacijskih indikatora, problematiku održivosti tvrtke u globalnom svijetu konkurencije.

Tematsko područje „Povijesna nasljeđa u razvoju gospodarstva“ obrađuju spomeničku i kulturnu baštinu s preporukom njenog većeg udjela u procesima razvoja gospodarstva kroz razvoj turizma i razne gospodarske aktivnosti.

U tematskom području „Globalna ekonomija & Održivi razvoj“ pretežno su radovi koji se odnose na problematiku globalnog okruženja, pitanje demografskih dimenzija globalizacije, globalnu ekonomiju, korporativno upravljanje, pitanje ekologije pojedinih zaštićenih područja, standarde i primjere iz drugih zemalja EU. Tematsko područje „Uloga prava u razvoju gospodarstva“ obrađuje problematiku prometnog prava, pravni okvir ostvarivanja prava na pristup informacijama, ustavne odredbe u poticaju razvoja, kaznenopravni izazovi zaštite privrednih djelatnosti, te neiskorištene potencijale državne imovine u gospodarskom razvoju Hrvatske. Tematsko područje „Društveno odgovorno poduzetništvo“ kao i „Međusektorska suradnja & Partnerstva“ su premalo zastupljena s radovima kao i prošli puta.

Svi ovi radovi (122) su značajan potencijal za rad na razvojnim programima ne samo istočne Hrvatske već i cijele RH koje treba neizostavno koristiti kod izrade Strategije razvoja.

Prof. dr. sc. Anka Mašek Tonković

In Closing

The Symposium participants have successfully used Einstein's thought "imagination is more important than knowledge" this year, as the works abound with proposals and visions for development not only in eastern Croatia, but also in the whole of Croatia. Throughout most of the works, a vision of faster economic development opportunities is present, if all the potentials that the Region has got are used with the support of positive legal regulations and programs.
Most of the papers are in the thematic area "Regional Development - Challenges and Opportunities". The authors mainly deal with the possibilities of developing continental tourism with regard to the natural potentials, cultural and sacral heritage, ethno and eco-values of the Region.They suggest organizational approach to tourist facilities offers, the connection between blue and green lines through various forms of cooperation and connectivity, in order to reach a higher level of supply. But there was also interest in the thematic area "Financial Institutions".The authors point to the problem of the banking sector and its impact on the growth of small and medium-sized enterprises, family farms, tourism development and general entrepreneurship development. Examples of foreign countries' practices are dealt with, foreign direct investments are analysed, as well as internal audit and control functions, fiscal consolidation problem, household indebtedness problem, and the situation on the Croatian capital market.
A great deal of interest is also shown for the thematic area "Human Capital in the Function of Socio-Economic Development of the Region". The authors deal with the issue of emigration and the labour market, the importance of human and social capital, the socio-economic contribution of third-age active retirees, the issue of formal and non-formal education, the model of higher education economic education for the digital age, entrepreneurial education needs, and innovation and work efficiency.
The papers in the thematic area "New Trends in the Development of the Economy" point to the need for achieving competitiveness and innovation as well as the quality control in business, the impact of technological changes in modern organizations, the problems of internet business, digital entrepreneurship, the problem of achieving company's accreditation through a quality program, measuring and performance of innovation indicators, issues of company sustainability in the global competition world.
The thematic area "Historical Heritage in Economic Development" deals with monumental and cultural heritage with the recommendation of its greater share in the economic development processes through the development of tourism and various economic activities.
In the thematic area "Global Economics & Sustainable Development", there are mainly papers related to the global environment issues, the demographic dimension of globalization, the global economy, corporate management, the issue of ecology of certain protected areas, and standards and examples from other EU countries.The thematic area "The Role of Judiciary System in Economic Development" deals with issues of traffic law, the legal framework for exercising the right to access to information, the constitutional provisions for the promotion of development, the criminal justice challenges in the protection of economic activities, and the unused potential of state property in Croatian economic development.The thematic area "Socially Responsible Entrepreneurship" as well as "Cross-sectoral Cooperation & Partnerships" are scarcely represented in the papers as in the past.

All of these papers (122) are a significant potential for work on development programs not only of eastern Croatia, but also of the whole of Croatia, which should inevitably be used in the creation of the Development Strategy.

Professor Anka Mašek Tonković, Ph.D.

Statt Einer Schlussfolgerung

Die Symposium-Teilnehmer sind auch in diesem Jahr erfolgreich dem Gedanken von Einstein „die Imagination ist wichtiger als die Kenntnisse“ gefolgt, da deren Arbeiten ein Überfluss an Vorschlägen und Visionen für die Entwicklung nicht nur Ost-Kroatiens, sondern auch der gesamten Republik Kroatien, kennzeichnet. Die Mehrheit der Arbeiten präsentiert die Vision für schnellere Möglichkeiten der wirtschaftlichen Entwicklung, wenn man die Gesamtheit der Potenziale, die die Region hat, mit Unterstützung von positiven gesetzlichen Richtlinien und Programmen ausnutzen würde.

Das thematische Gebiet „Regionale Entwicklung – Herausforderungen und Gelegenheiten“ umfasst die meisten Arbeiten. Die Mehrheit der Autoren bearbeiten vorwiegend die Möglichkeit der Entwicklung des Festlandtourismus – die natürlichen Potenziale, das Kultur-und sakrale Erbe, die ethno- ökologischen Werte der Region in Betracht ziehen. Sie schlagen den organisatorischen Zutritt des Angebots der touristischen Inhalte, die Verbundenheit der blauen und grünen Linie durch verschiedene Formen der Mitarbeit und Bindung, vor, damit man ein höheres Niveau des Angebots erreicht. Jedoch bliebdas Interesse für das thematische Gebiet der „Finanzinstitute“ auch nicht aus. Die Autoren weisen auf das Problem des Bankensektors und dessen Einfluss auf das Wachstum von kleinen und mittleren Unternehmen, Familienfarmen, Tourismusentwicklung und - im Allgemeinen - auf die Entwicklung des Unternehmertums hin. Die Beispiele aus der Praxis von Auslandsstaaten wurden bearbeitet, es werden die ausländischen Direktinvestitionen, die Funktionen der internen Revision und Kontrolle, die Frage der Fiskalkonsolidierung, das Problem der Verschuldung der Haushalte und der Zustand auf dem kroatischen Kapitalmarkt analysiert.

Ein ziemlich großes Intereses ist auch für das thematische Gebiet „Humankapital in der Funktion der sozial-wirtschaftlichen Entwicklung der Region“ gezeigt worden. Die Autoren bearbeiten die Problematik der Emigration und den Arbeitsmarkt, die Bedeutung des Human- und Sozialkapitals, den sozial-wirtschaftlichen Beitrag der aktiven Rentner des dritten Lebensalters, die Frage der formellen und informellen Ausbildung, das Model der hochschulischen Wirtschaftsbildung für die Bedürfnisse der digitalen Zeit, die Notwendigkeiten der Bildung der Unternehmer und die Innovations- und Arbeitswirksamkeit.

Die Arbeiten auf dem thematischen Gebiet „Neue Trends in der Wirtschaftsentwicklung“ weisen auf die Notwendigkeit der Erlangung der Wettbewerbsfähigkeit und der Innovativität, als auch auf die Sorge um die Qualitätskontrolle in der Geschäftstätigkeit, den Einfluss der technologischen Änderungen in modernen Organisationen, die Problematik der Internetgeschäftstätigkeit, das digitale Unternehmertum, das Problem der Erlangung der Akkreditierung der Firma durch das Qualitätsprogramm, Innovationsmessung und Erfolg der Innovationsindikatoren, die Problematik des Bestehenbleibens der Firma in der globalen Welt der Konkurrenz, hin.

Das thematische Gebiet „Historisches Erbe in der Wirtschaftsentwicklung“ bearbeitet das Denkmal- und Kulturerbe mit der Empfehlung seines größeren Anteils an den Prozessen der Wirtschaftsentwicklung durch die Tourismusentwicklung und die verschiedenen Wirtschaftsaktivitäten.

Das thematische Gebiet „Globalökonomie & nachhaltige Entwicklung“ umfasst zum größten Teil Arbeiten, die sich auf die Problematik der globalen Umwelt, die Frage der demografischen Dimensionen der Globalisierung, das korporative Management, die Frage der Ökologie von einzelnen Schutzgebieten, die Standards und Beispiele aus den anderen EU-Staaten. Das thematische Gebiet „Rolle des Rechts in der Wirtschaftsentwicklung“ bearbeitet die Problematik des Verkehrsrechts, den rechtlichen Rahmen für die Verwirklichung der Rechte auf Zutritt zu Informationen, die Verfassungsbestimmungen, die sich auf den Antrieb für die Entwicklung beziehen, die strafrechtlichen Herausforderungen, die sich auf den Schutz der Wirtschaftstätigkeiten beziehen, als auch die nicht ausgenutzten Potenziale des Staatsvermögens in der Entwicklung der kroatischen Wirtschaft. Die thematischen Gebiete „Sozialverantwortliches Unternehmertum“ und „Zusammenarbeit zwischen den Sektoren & Partnerschaften“ sind, wie es auch das letzte Mal der Fall war, durch zu wenigen Arbeiten vertreten.

Alle von diesen Arbeiten (122) sind ein signifikantes Potenzial für die Arbeit an den Entwicklungsprogrammen von nicht nur Ost-Kroatiens, sondern auch der gesamten Republik Kroatien, die unbedingt bei dem Ausarbeiten der Strategie der Entwicklung anzuwenden sind.

Prof. Dr. sc. Anka Mašek Tonković

后记

本届研讨会的与会嘉宾把爱因斯坦所说的“想象力比知识更重要”发挥得淋漓尽致，研究成果充满了对克罗地亚东部乃至整个克罗地亚发展的建议和愿景。大部分结果表明，只要有积极的法律法规和发展方案的支持，该区域现存的潜力将有望转化成喜人的发展成果。

大多数参与研讨的文章都围绕着“区域发展——机遇和挑战”的专题领域展开讨论。与会作者主要论述了发展大陆旅游在自然潜力、文化和宗教遗产以及民族和生态价值方面的可能性。他们提出了旅游设施及服务的建制方式，通过各种形式的合作和交互实现蓝绿线之间的互联互通，以达到更高的供应水平。

“金融机构”主题也吸引了与会者的兴趣。与会作者们指出了银行业存在的问题及其对中小企业、家庭农场、旅游业和一般企业家发展的影响。作者们研究了国外发展实例，分析了国外直接投资数据、我国内部审计和控制职能、财政整顿问题、家庭负债问题以及克罗地亚资本市场现状。

除此之外，与会者对于主题领域“人力资本在区域社会经济发展的作用”也表现出了极大的兴趣。作者们探讨了移民问题和劳动力市场问题、人力资本和社会资本的重要性、第三年纪的活跃退休人群对于社会经济发展的贡献、正式和非正式教育的问题、数字时代的高等教育和经济教育模式、创业教育需求、创新以及工作效率。

“经济发展新趋势”主题的相关文章指出了增强竞争力、创造力以及质量监管能力的迫切需求、技术变革在现代组织中的影响、互联网商务问题、互联网创业、通过高质量项目实现公司资格认证的问题、创新指标的测量和绩效、公司在全球竞争中的可持续性问题等。

“经济发展中的历史遗产”主题区讨论了具有里程碑意义的文化遗产。意见表明这些文化遗产将因旅游业和多样化经济活动的发展，在总体经济发展进程中占据愈发重要的地位。

在“全球经济与可持续发展”主题中，文章主要涉及全球环境问题、全球化的人口维度、全球经济、企业管理、某些保护区的生态问题以及其他欧盟国家的标准和实例。

“司法制度在经济发展中的作用”课题主要处理了交通法规问题、知情权实践所需的法律框架、宪法规定对于促进发展的作用、保护经济活动给刑事司法领域带来的挑战以及未使用的国有资产在克罗地亚经济发展中的潜力。

专题“承担社会负责任的企业家精神”和“跨部门合作与伙伴关系”是过去的论文中没有讨论过的全新领域。

所有这122篇文章不仅对克罗地亚东部的发展项目，甚至对整个克罗地亚都具有重要的潜在指导作用，并将毋庸置疑地用于制定未来的发展战略。

Anka Mašek Tonković 教授

Zahvala sponzorima / Gratitude to sponsors

POKROVITELJ:

Ministarstvo gospodarstva RH

SPONZORI:

Osječko-baranjska
županija

studio hs
internet

DRŽAVNI ARHIV U OSIJEKU
STATE ARCHIVES IN OSIJEK

MLU Muzej likovnih umjetnosti

muzej slavonije
OSIJEK

Valpovački vlastelini
PRANDAU
NORMANN

Muzej
Valpovštine