

ISSN 0350-137X

UDK: 338 (497,1)

ЕКОНОМИКА

4



ГОД LX



НИШ, 2014



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2. Часопис су покренули Друштво економиста Ниша и Друштво инжењера и техничара Ниша (остало као издавач до краја 1964. године). Удружење књиговођа постаје издавач почев од броја 6-7/1958. године. Економски факултет у Нишу на основу своје одлуке броја 04-2021 од 26.12.1991. године постао је суиздавач “Економике”. Такође и Економски факултет у Приштини постао је суиздавач од 1992. године. Почев од 1992. године суиздавач “Економике” је и Друштво за маркетинг региона Ниш. Као суиздавач “Економике” фигурирали су у току 1990-1996. године и Фонд за научни рад општине Ниш, Завод за просторно и урбанистичко планирање Ниш и Корпорација Винер Брокер Ниш.

3. Републички секретариат за информације СР Србије својим Решењем бр. 651-126/73-02 од 27. новембра 1974. године усвојио је захтев “Економике” за упис у Регистар новина. Скупштина Друштва економиста Ниша на седници од 24. априла 1990. године статутарном одлуком потврдила је да “Економика” има статус правног лица. На седници Скупштине Друштва економиста Ниш од 11. новембра 1999. године донета је одлука да “Економика” отвори посебан жиро-рачун.

4. Према Мишљењу Републичког секретариата за културу СР Србије бр. 413-516/73-02 од 10. јула 1973. године и Министарства за науку и технологију Републике Србије бр. 541-03-363/94-02 од 30. јуна 1994. године “Економика” има статус научног и ранг националног часописа “Економика” је поћев од 1995. добила статус међународног економског часописа.

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Жиро рачун: динарски 160-19452-17

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18000 Ниш
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INTERNATIONAL JOURNAL
FOR ECONOMIC THEORY AND PRACTICE AND SOCIAL ISSUES



ЕКОНОМИКА

The Journal is issued four times a year.

Year LX, IX-XII 2014, Vol. 4

PUBLISHER: Society of Economists "Ekonomika", Nis

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1. The journal EKONOMIKA was initiated in July 1954. It was published as "Nis Economic Messenger" till June, 1957 and as "The Economic Messenger" till the end of 1969. The title "Science and Practice" it had till the issue 1/1973 when it changed its name into EKONOMIKA as it entitled today.

2. The Journal was initiated by the Society of Economists of Nis and the Society of Engineers and Technicians of Nis (the latter remained as the publisher till the end of 1964). The Society of Accountants became its publisher starting from the issue no. 6-7/1958. The Faculty of Economics, Nis, on the basis of its Resolution No. 04-2021 from December 26, 1991, became the co-publisher of EKONOMIKA. Likewise, the Faculty of Economics of Pristina became the co-publisher since in 1992. Starting from 1992, the co-publisher of EKONOMIKA has been the Society for Marketing of the Region of Nis. Other co-publishers of EKONOMIKA included, in the period 1990-1996, the Foundation for Scientific Work of the Municipality of Nis, the Institute for Spatial and Urban Planning of Nis and the Corporation Winner Broker, Nis.

3. The Republic Secretariat for Information of the Socialist Republic of Serbia, by its Resolution No. 651-126/73-02 from November, 27, 1974, approved of EKONOMIKA's requirement to be introduced into the Press Register. The Assembly of the Society of Economists of Nis, at its session on April 24, 1990, by its statutory resolution, confirmed the legal status of EKONOMIKA. At the session of the Assembly of the Society of Economists, Nis, on November 11, 1999, the resolution was adopted the EKONOMIKA was to open its own bank account.

4. According to the Opinion of the Republic Secretariat for Culture of the Socialist Republic of Serbia No. 413-516/73-02 from July 10, 1973 and the Ministry for Science and Technology of the Republic of Serbia No. 541-03-363/94-02 from June 30, 1994, EKONOMIKA has the status of a scientific and national journal. Starting from 1995, EKONOMIKA has been having the status of international economic journal.

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Bank Account: 160-19452-17

Printed by:

"SPEKTAR"

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Copies: 300



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ВЛАДИМИР ИВАНОВИЋ

Компьютерная обработка текста и графика:
МИЛАН Д. РАНЂЕЛОВИЋ

Худ. оформление:
ПЕТАР ОГНЯНОВИЧ, ДРАГАН МОМЧИЛОВИЧ

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e-mail: zoki@medianis.net WEB: <http://www.ekonomika.org.rs>

Расчетный счет: 160-19452-17

Печать:
„СПЕКТАР”
18000 Ниш
Тираж: 300

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ORIGINAL SCIENTIFIC ARTICLE
Received: August 03, 2014
Accepted: October 12, 2014

ECOLOGICAL SECURITY OF A BUSINESS AND EXECUTION OF CORPORATE SOCIAL RESPONSIBILITY ASSUMPTIONS

Abstract

A number of events of terrorist nature and disasters in the early 21st century resulted in enhancing the role of security in many areas of social and business life, including also those concerning the functioning of businesses. The execution of corporate social responsibility (CSR) premises in the context of ensuring ecological security is reflected in many management approaches and concepts. The objective of this paper is the presentation of relationships of ecological security with various management concepts which take CSR premises into consideration. As a research method, the critical analysis of the existing theoretical concepts related to ecological security issues and the CSR concept has been assumed. Then, the connections of these concepts in the executed business models taking into account the process approach and creating the value of the business based on ecological criteria was analysed.

Key words: *corporate social responsibility, ecological security, sustainability.*

JEL classification: *M14, Q5*

ЕКОЛОШКА БЕЗБЕДНОСТ ПОСЛОВАЊА И ИЗВРШЕЊЕ ПРЕТПОСТАВКИ КОРПОРАТИВНЕ ДРУШТВЕНЕ ОДГОВОРНОСТИ

Апстракт

Бројни догађаји терористичког карактера и катастрофе на почетку 21. века резултирали су у повећању улоге безбедности у многим областима друштвеног и привредног живота, укључујући и оне које се тичу функционисања предузећа. Извршење корпоративне друштвене одговорности у контексту обезбеђивања еколошке сигурности огледа се у многим приступа и концептима менаџмента. Циљ овог рада је сагледавање односа еколошке безбедности и различитих концепата менаџмента који узимају у обзир корпоративну

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друштвену одговорност. Као метод истраживања коришћена је критичка анализа постојећих теоријских концепата везаних за еколошку безбедност и концепт корпоративне друштвене одговорности. Затим су анализиране везе ових концепата у извршеним пословним моделима, уз узимање у обзир процесног приступа и стварања вредности предузећа на основу еколошких критеријума.

Кључне речи: корпоративна друштвена одговорност, еколошка безбедност, одрживост.

Introduction

Variability of the surroundings, multitude and complexity of situations make companies face huge challenges in the scope of management, forcing the adoption of new strategies of functioning, as well as perceiving the possibility of the existing threats which are integral to the changes. A number of events of terrorist nature and disasters in the early 21st century resulted in enhancing the role of security in many areas of social and business life, including also those concerning the functioning of businesses. Preparation of a company for various events is related to Business Continuity Management, which covers various areas of security of the organisation, including ecological security. These areas concern various subjects: stockholders, employees, clients, the natural environment and other, called the beneficiaries of the company. Each of the entities is interested and expects security to be provided. Taking their expectations into account is related to the execution of the corporate social responsibility concept (CSR). The execution of CSR premises in the context of ensuring ecological security is reflected in many management approaches and concepts. The objective of this paper is the presentation of relationships of ecological security with various management concepts which take CSR premises into consideration.

1. Theoretical Background

Company and Security

Security is referred to in modern dictionaries as a state of certainty (*safety*), peace, lack of threat to the feeling of being protected, indicating at the same time that it means lack of threat and protection against dangers. The most general meaning includes meeting such needs as: existence, survival, independence, peace and certainty of growth. L.F. Korzeniowski defines security as the capacity for creative activity of the entity and means holistic and dynamic objective situation which consists in the lack of hazard felt subjectively by individuals or social groups. He divides security in terms of the entity into (Korzeniowski, 2012; Sulowski, Brzeziński, 2009):

- Security of the individual or of the group (a single person, a small group, the society, mankind),
- Security of objects (buildings, machines, products, etc.),
- Security of finances (the cash desk, money, securities, etc.),
- Security of information (data, correspondence, etc.).

Analysing the types of security in the subjective view in the non-military scope, such types of security are named as ecological, power, social, economic, and political; the term of cultural and information security appears, and technical security is also being considered.

The literature presents also other classifications of security (Chodyński, 2013b). Ecological security is increasingly being considered at the business level as a component of its safety (Sulowski, Brzeziński, 2009). Ecological security is most often associated with mitigation and elimination of ecological hazards for the natural environment (Chodyński, Jabłoński, Jabłoński, 2008b).

The term of *threat* to an entity is closely related to the term of *security*, referring to the awareness of the given subject (e.g. an individual, a social group). Perception of threats by this subject is the reflection of the real or prospective hazard in their awareness. It thus means that the feeling of security may be at variance with the actual situation. Therefore, the reality should be taken into consideration in the assessment of security, in which threats arise for participants in social life and their knowledge and awareness in which threats are perceived and the feeling of security is shaped.

Security of subjective nature is the most important need of man and of social groups and of the state. This is why every individual, social group or state is trying to have some impact on its surroundings and the inner realm so as to remove threats or at least push them away, thus eliminating fears or uncertainty. The activities of these entities aimed at liquidation of threats may be directed against both internal and external factors. Thus, we have here two aspects of security: internal and external. Internal security means stability and harmony within the given entity (a set of circumstances, a facility, a system), whereas external security means lack of threats from other entities and forces of nature (Korzeniowski, 2012).

A company functioning in the milieu is often focused on executing economic objectives, thus being dependent on the surroundings and on meeting their expectations. Taking into consideration social objectives, including ecological ones, may be a way used to improve economic results and is conducive for long-term growth. Each and every company has its own circle of beneficiaries, which has to be determined during the management of relations of the company with them, which includes: identification of the beneficiaries, diagnosis and classification (their potential for threat and cooperation), formulation of the strategy of management of relations with the key clients and effective implementation of these strategies. Various approaches may be followed in the relations with clients (Chodyński, 2011b):

- Proactivity: prediction of expectations and exceeding them,
- Adjustment: meeting expectations without exceeding them,
- Defence: meeting the minimum requirements imposed by the law,
- Ignoring – objection – lack of reaction to the expectations.

Considering the above areas and types of security in reference to a company, one has to notice that each group of beneficiaries has interests in a specific type (area) of the company's security. They expect security in at least one area, although some beneficiaries show interest in two or more of them, e.g. clients expect safe products, protection of personal details (information), ecological products, while the interest of the owners (stockholders, shareholders) includes ensuring security in all the possible areas, because any limitation to it or its lack may have direct financial consequences and effect on perception and reception by beneficiaries, which translates into the reputation of the company (e.g. data loss, including credit card numbers and passwords of 100 million clients of Sony Play Station Network and Sony Online Entertainment) (Grynkiewicz,

2014). The natural environment is a particular beneficiary, being a silent one (or even the main one: the primary stakeholder) on behalf of which other stakeholders appear and make decisions (local communities, local government institutions, international institutions, media, commercial organisations), as they expect ecological security. A. Chodyński emphasises the fact that individual stakeholders share their roles, to which ecology contributes as a factor binding stakeholders together. For example, employees may also appear in the role of clients or members of a local community. It means that when they take different roles, they present different pro-ecological expectations, including those related to security (Chodyński, 2011a).

Ecological Security

The ecological security term may be defined in many ways. Z. Hull defines ecological security as “the condition of the natural environment when there are no threats which violate the balance of ecosystems and biosphere” (Hull, 2008, p. 28). Security understood in this way includes both positive and negative aspects. In the positive aspect, it identifies with the concept which consists in preventing occurrence of such threats. Instead of elimination of threats, it is suggested to develop social and economic relations in the way which does not lead to any ecological crisis. In the negative aspect, it is limited to elimination of threats to the natural environment (Ciszek, 2010). J. Haber defines ecological security as the “permanent and continuous process aimed at achieving the required ecological condition protecting peaceful and healthy existence of all the elements of the eco-system with various measures compliant with the rules of internal social coexistence of the state and of international communities”. This approach has the advantage that its essence is narrowed down to a concisely understood constructive protection of the environment (its ecosystems) and measures leading to avoidance of any threats, at the same time stating that this process should be executed with the participation of many constituent elements (Haber, 1981).

The literature refers to ecological security not only at the level of the region, of the country or in the international scale, but also in terms of various types of civilisation and natural disasters, viewed as the ecological security of the business (Chodyński, 2007a).

Ecological security may be related to the modern paradigm both in the security knowledge and in the management knowledge. The analysis of the achievements of the knowledge of security and management indicates similarities in the scope of paradigms (Chodyński, 2013b).

Ecological security is affected by inter-organisational trust and competencies owned. Ecological security is developed based on trust. The need for trust appears in situations of uncertainty and probability of occurrence of unwanted consequences of the action undertaken. It may be used in managing ecological security in the context of creating security systems which take into account the ecological sub-system functioning in reference to the political, economic, social or military subsystems. A trust may also be used for binding the security system with the natural environment system. Trust is characterised by, among others, the term of competency. In the inter-organisational systems, ecological security is dependent on ecological competencies owned by their participants, which include skills related to enhancing ecological security (Chodyński, 2007a). Ecological competencies manifest, among others, in ecological quality and innovativeness related to products and processes (Chodyński, 2007b). Ecological competencies considered jointly with economic and social competencies shall be read as sustainability competencies (Chodyński 2013a) Ecological competencies are used in a broader way in the situation of any non-economic crisis. The literature also refers to the view that social competencies

include also competencies related to respecting the natural environment (ecological competencies) (Oleksyn, 2010).

Ecological security of a business entity may be related to the network approach, including in particular the creating of clusters (Chodyński, 2012) Increasing ecological security may be executed by business entities within the network connections created between them. In case of clusters, the role of complementary competencies of a group of companies, their suppliers, clients and centres of knowledge participating in one chain of value creation (production process) has to be emphasised. The purpose of their activity is to improve quality of processes and the final goods. They may create with each other network connections which allow diffusion of innovations and common developing of new technologies (den Hertog et al. 2001). Learning in the cluster in reference to crisis situations and sharing by using resources is a major premise used in the creation of this type of connections.

According to Porter, the value of the group (cluster) as an entirety which constitutes the system of mutually connected companies and institution is larger than the sum of the values of the individual parts (Porter 2001). J. Stachowicz emphasises that cooperation within a cluster leads to development and maintenance of additional, more-than-average competitiveness against individual entities competing in the market. The emphasis is that the cluster gains stronger competitive edge than the individual companies separately due to the social capital developed in the cluster (Stachowicz 2006). Ecological awareness of the participants also plays an important role. Creating network arrangements may also have effects on the shape of business models (Chodyński, 2007a).

Ecological security and CSR

Ecological security merges very well with the idea of sustainable development, deeply rooted in the considerations related to the ecological consequences of business operations. It assumes ensuring for everyone, today and in the future, meeting of their own needs under the conditions of the proper management which takes into account properly and consciously developed relations between the economic growth, caring for the environment (not only natural) and quality of life (Rogall, 2010). The departure point for discussion about sustainable development was an observation of 1970s about 1980s that the mankind poses a threat for the grounds of one's own life by excess exploitation of natural resources. In this case, companies are assigned a major role of negative meaning (Laszlo, 2008).

Sustainable development is reflected in many domestic and international legal acts, as well as in such documents as policies and programmes. It is a constitutional standard of the Republic of Poland (Art. 5 of the Constitution of the Republic of Poland), and the definition of sustainable development is also included in the Environment Protection Law.

At the company level, execution of premises of sustainable development is related to the CSR concept (social responsibility of companies). Social commitment allows striving to achieve the maintenance of balance among the economic, ecological and social aspects in the company operations, thus it may contribute to achieving objectives which are embedded in sustained development. It may specifically apply to the protection of the natural resources, and maintenance of stability of ecosystems, resulting in improving health condition, security and welfare (Bogdanienko, 2011).

The CSR term has been changing over time. A broad overview of the definitions of CSR was prepared by I. Freeman and A. Hasnaoui (Freeman, Hasnaoui, 2011). Proactivity of CSR is highly emphasised, as CSR exceeds the regulations in force with its innovations, eco-efficiency, prevention of environment pollution, leadership related

to the (natural) environment, including through analysis of the (ecological) life cycle of the product (Torugsa et. al., 2012). CSR is discussed as a possible innovation driver and a factor used to maintain growth of the cluster (von WeltzienHoivik, 2011).

The social responsibility of a company is a process of identifying and activating changing expectations of the beneficiaries in the management strategy, as well as monitoring the effect of this strategy on competitiveness and the value of the company in the market. Management compliant with the CSR idea is of a strategic nature and is based on continuous and active dialogue with beneficiaries, maintaining the principles of transparency and observation of the law in force. Corporate social responsibility means searching for balance between the interests and needs of the key stakeholders, and not only pursuing maximisation of profit. CSR is also about achieving profit, but in a way which is honest, ethical and socially acceptable, as the term of profit has a broader, social dimension. Attention has to be paid here to the fact that even though voluntarily nature of the corporate social responsibility concept is emphasised, making a decision to implement it results in the necessity of managing consistent and systematic actions. CSR becomes an obligation, because its neglecting is negatively assessed by the stakeholders. Corporate social responsibility is not a charity activity of companies or a new marketing or PR instrument, used solely for creating the image. It will bring about measurable benefits for the society and the company only when it is integrated in the strategy of the company and its management system (Nakonieczna2008).

2. Research Methodology and Hypothesis

As a research method, the critical analysis of the existing theoretical concepts related to ecological security issues and the CSR concept has been assumed. Then, the connections of these concepts in the executed business models taking into account the process approach and creating the value of the business based on ecological criteria was analysed. The relationships of CSR and of the sustainability concept were analysed. The departure point is the fact that the literature indicates corporate sustainability and CSR being very similar concepts (Minyi2011). The analysis was also related to the role of ecological security in the situation of a non-economic crisis in a company. Case studies are also presented.

The assumed hypothesis is:

H: Ecological security of a business may be supported by activities related to the execution of CSR.

3. Discussion of Research Results

Ecological security may be related to creating and executing pro-ecological business models. Pro-ecological models of business may be based on assumptions of environmental corporate social responsibility (ECSR, Chodyński, Jabłoński, Jabłoński, 2008a). A. Chodyński gives a proposal of models (Chodyński, 2011a):

- The pro-efficiency model of environmental corporate social responsibility: this model is based on sustainable development assumptions, takes into account the role of corporate social responsibility, integration of effectiveness of ecological, social and economic actions is used to achieve effectiveness of the whole business and building its value;
- The entrepreneurship model of environmental corporate social responsibility: this model in specific situations may aim at creating value by pro-ecological

integration of areas of activities, is a development of the pro-efficiency model, with the emphasised role of the innovative approach.

The pronouncing significance of ecological aspects in the above models is related to the conviction of the necessity of maintaining the natural environment for the future generations. This approach means for companies the necessity of taking these issues into consideration in their strategic activities, which may in consequence result in basic changes in the executed models of business. With the inter-generational responsibility and increased negative impact of unwanted climatic phenomena taken into account, the future models of business should be reflected in the pro-ecological integration of the company functioning.

Ecological security in a company may be based on the process approach (Chodyński, Jabłoński, Jabłoński, 2008b).

Due to the major significance of security for a business, it should be viewed from the point of view of the strategy adopted for execution and should be included in the management system which allows deviation from the concept of protecting business in favour of constructing a secure business. A. Chodyński et al. propose development of a separate ecological security strategy for the ecological security of the business (Chodyński, Jabłoński, Jabłoński, 2008b). The security management system should be built on this strategy. This strategy is mostly aimed at ensuring ecological security. It is strongly related to corporate social responsibility focused on creating value of a company based on ecological criteria (ECSR). It may also take into consideration a chain of ecological values in the context of the classic chain of values. Methods for reducing or even eliminating excess noxiousness of the process for the natural environment may be found within the ecological features of business processes. The proposal of the above strategy should include (Chodyński, Jabłoński, Jabłoński, 2008b):

1. Taking the system approach into consideration, i.e. the quality of corporate infrastructure, the level of defectiveness of the infrastructure, the degree of ecological interaction of processes, the ecological competencies of employees, and disturbances.
2. Building trees of objectives of ecological security of the business pursuant to the conducted assessment of technical risk, including ecological risk.
3. Creating the map of ecological values.
4. Cascading the strategy of ecological security into the lower levels of management. SBSC (Sustainability Balanced Scorecard) may be used for this purpose, which is an expansion of the classic BSC (Kaplan, Norton, 1996) with strategic ecological factors and social factors to allow creation of an effective business model for ecological security of a company.
5. Developing the optimal model of corporate ecological security management.
6. Developing a map of ecological risk management processes compliant with the chain of ecological values which takes ecological security into consideration. Isolating the main, critical, auxiliary and coordinating processes is proposed along with it.

The properly implemented and improved strategy of ecological security may be an effective and efficient tool to allow gaining control over ecological risk and limit disturbances which affect the company. It may also be used to eliminate the competence gap in the area of gaining control over the ecological risk as well as increasing trust in a business on the part of all the stakeholders.

Ecological security of a business is part of non-economic crisis considerations. Crisis in reference to a business is usually analysed in the economic context (economic

crisis). More and more, the issue of non-economic crisis events are emphasised, being related to various types of disasters, the effect of elements (floods, earthquakes, volcanic eruptions, etc.), consequences of industrial disasters, wars or terrorist activities. They are sudden and unforeseeable. Special significance is increasingly assigned to a non-economic crisis in reference to the sectors of the so-called critical infrastructure, which provide and integrate services on the continuous basis on which particular countries are based. G. Ridley connects critical infrastructure with supplying electricity, water, food, as well as with transport, telecommunications, health, banking and finances (Ridley, 2011). The critical infrastructure in the European Union includes facilities related to the power industry (electricity, oil and gas) and transport [Directive of the Council 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection, Official Journal of the European Union, 23.12.2008, L 345/75].

The National Critical Infrastructure Protection Programme developed in Poland (2013) includes, among others, elements of the critical infrastructure which we consider herein as important from the point of view of ecological security. These are: supplying water, energy, raw materials and fuel, but also transport, rescue services and the system (the sub-system), which includes production, storage, temporary storing, as well as using chemical and radioactive substances along with pipelines for hazardous substances.

Using concepts related to functioning of organisations in threat situations becomes necessary. The sustainability concept may be used in this case. Pro-social and pro-ecological behaviour within sustainability have an effect on ensuring security and mitigation of threats (Chodyński, 2013a).

Determination of methodology for measuring results of activities, including in the scope of ecological security of the organisation, is an important element of the structure of the management system. The so-called balanced systems for measuring results of activities, which take into account financial and non-financial measures, include:

- The activity assessment criteria model (Sink and Tuttle)
- The matrix of measuring results of activities (Keegan, Eiler and Jones),
- The SMART pyramid,
- The model of results and their determinants (Fitzgerald, Jonston, Brignall, Silvester, Voss),
- The Balanced Scorecard (Norton and Kaplan).

While taking measurements, irrespective of the used methodology, the company may apply quantity and quality measures. The proper selection of measuring points and the correct designing of measures is of unique importance in the measurement. Measures based on the systems and methodologies existing in the organisation should also be used, with the intent on their integration (Haffer, 2011). The quantitative and qualitative effect of a company on the natural environment may be expressed with indicators of costs of protection of the environment, the amount of penalties related to its pollution, as well as indicators of the so-called ecological noxiousness, including: material consumption, power consumption, water consumption, wastewater consumption, waste consumption, dust generation and gas generation (Borys, 1999). In the context of ecological security, attention should be paid to the sector nature of the effect of business activities on the natural environment and the related accounting of sector indicators in the measurement (Huszlak, 2012). The results of non-financial activities may be reflected in social report, which is related to the execution of corporate social responsibility. The reports present information about non-financial activities and economic, social and environmental results of a company for the given period of time, which is usually the financial year. The

CSR report is not only a supplement to the obligatory elements of the business report (the annual report), but also of broadly understood relations with clients. In order to ensure proper and transparent reporting, efforts are undertaken in the scope of standardisation and independent assessment of activities in this respect. The most common standard is the GRI (Global Reporting Initiative). On the global level, initiatives are undertaken by a number of international organisations, such as UN Global Compact, OECD, UNPRI, GRI, ISO, AccountAbility, and the WBSCD. Standardisation activities of the obligatory nature are also undertaken by more and more countries at the national level (Huszlak, 2011).

Ecological security is discussed in various types of documents, e.g. in codes of ethics. Two of their characteristics are of crucial significance: the normative nature (they are a set of behaviour standards and principles which the company declares to observe) and their application (addressed to company employees, to other stakeholders, e.g. the community, suppliers). The codes specify the scope of responsibility of the management and of the supervisory board resulting from the obligations towards the society adopted by the company. The code specifies the principles about what is acceptable and what is not within the categories of honest activity. The essence of the codes is the prevention approach. The issues most often discussed in them are those of safety of products, services, protection of the environment, security in the workplace, informing about defaults in observation of standards, quality, storing and making available information and other.

Ecological security may refer to creating new, good practices (Chodyński, Huszlak, 2013). According to the International Network for Quality Assurance, good practice means a transparent and consistent action which has been verified as one that brings about significant added value for the activities of and organisation and/or their beneficiaries. Good practices are activities, and not the very principles of proceedings, rules, ideas or concepts for the execution of the task. A good practice most often means a comprehensively completed project, programme, initiative, but also procedures, processes or methodologies. The following are examples of projects which may be regarded as including good practices.

The Farming Biogas Plant in Melno.

Alter Power built a farming biogas plant with the power output of 1.36 MW and the thermal power of 1.54 MW, fed with biogas produced from phytogetic substrates, the objective of which is the generation of electricity and heat from farming biogas. It is one of the first investments of this type in Poland. This investment has allowed achieving high effectiveness of production of energy: 10,522,000 kWh of electricity and 11,943,000 kWh of thermal energy in the same production process. The solution has been employed which consists in using alternative (renewable) sources of energy, with the target production of energy done with 5.5 m m3 of biogas per year. With high-efficiency cogeneration and use of renewable sources of energy, the ecological effect may be achieved in the form of eliminating the emission of harmful substances into the air, which would have been emitted if the same amount of energy was produced with traditional methods (in power plants and heat generation plants). The planned ecological effect, i.e. the planned reduction in CO2 emission shall be ca. 15,000 t/y. The investment has also other positive social effects. It is executed in rural areas, after the former Melno sugar factory, the main employer around and the payer of local taxes. With this investment, new workplaces have been created, with the target of 200.

Segregation of Waste and Composting Facility in the Vineyard.

The second project, which is a good practice, was executed by WinniceJaworek Sp. z o.o. It consisted in the implementation of waste segregation and composting a separate organic fraction in the vineyard. WinniceJaworek were owned by the companies which did not have any organic waste management programme and stored it on the ground as waste, which was becoming increasingly problematic for neighbours. A waste composting plant was built to prevent depositing organic waste in the premises of the company. Composting is definitely the simplest and best method of organic recycling, that is recovery of very valuable fertiliser material from useless plant waste. Additionally, in order to limit the volume of mixed waste, segregation has been applied with into glass, plastics, metal and waste paper. The activities undertaken help limit the volume of waste in the dump yard by as much as 97%. Moreover, useless waste has become the source of own, low-cost and one of the most valuable fertilisers for vegetation - compost. Segregation of garbage content allowed complete elimination of waste hazardous for the environment.

The practices undertaken by the above companies allow pursuing of not only economic objectives, but also social and ecological, and may constitute the source of searching for “good practices” for other organisations.

The necessity of developing good practices in undeveloped countries is also important. The examples related to ecological aspects are given by, among others, Ch. Seelos and J. Mair (Seelos, Mair, 2007). Non-governmental organisations have a very special role in developing good practices in these countries (Brugmann, Prahalad, 2007).

Conclusion

Execution of the CSR concept may be combined with activities covered by sustainability efforts. Ecological security is also included in the sustainability concept and may be executed with the use of the CSR concept, with emphasis on the role of the beneficiaries. The sustainability concept is presented in the literature in the basic version as the basis for creating a stable business, based on the triple bottom line concept which calls for pursuing economic, social and ecological objectives in the company.

Execution of the sustainability concept requires the development of competencies which distinguish the company, and which include and integrate economic, social and ecological competencies. They should increasingly include the possibilities related to developing network connections using knowledge management. Sustainability competencies should be created independently of occurrence of crisis situations. Due to the substance scope, they may be related to the CSR concept. Execution of the sustainability concept should encourage business entities to create connections and undertake actions with various entities in the social and public sector for the best preparation to crisis situations of non-economic nature. Various types of threats should be considered, both natural (consequences of natural disasters) as well as civilizational (consequences of human activities) (Chodyński, 2012).

The Sustainability Model which takes into account security may be the basis for sustainable, responsible development of a company and building of its competitiveness, as well as reducing business risk. Its execution may prevent possible crisis events in the company, not only economic, but also of non-economic nature.

Ecological competencies, the networking approach, and inter-organisational trust all affect ecological security of a company. The strategic approach plays an important role in the process of ensuring this security, taking into consideration development of business models

with ecological criteria and development and implementation of the ecological security strategy. With its ecological aspect, ecological security has a natural reference to the CSR and Sustainability concept. Execution of these concepts may be used for mitigation and elimination of threats resulting in crisis events of economic, but also non-economic nature. A tool such as codes of ethics may prove to be extremely helpful, as they determine directions for actions and are preventive measures, and social reports which affect development of trust by way of communication of non-financial actions to all the beneficiaries. They are the manifestations of the attempted implementation of practical activities within CSR.

References

- Bogdanienko J. (2011), Odpowiedzialność społeczna a strategia organizacji, [in:] społeczna odpowiedzialność biznesu krytyczna analiza, (eds.) Bernatt M. Bogdanienko J. Skoczny T., Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego, Warszawa.
- Brugmann J., Prahalad C.K. (2007), Cocreating business's. New social compact, "Harvard Business Review", February, 6.
- Chodyński A. (2007a), Bezpieczeństwo ekologiczne, kompetencje a zaufanie międzyorganizacyjne. Aspekty strategiczne [in:] Chodyński A. (ed.) Społeczne i ekologiczne aspekty zarządzania, Kraków.
- Chodyński A. (2011a), Odpowiedzialność ekologiczna w proaktywnym rozwoju przedsiębiorstw, Oficyna Wydawnicza AFM, Kraków.
- Chodyński A. (2011b), Proaktywne zarządzanie aspektami ekologicznymi w przedsiębiorstwie – perspektywa strategiczna, [in:] Ekologiczne aspekty zarządzania rozwojem przedsiębiorstw i regionów, ed. Chodyński A., Oficyna Wydawnicza AFM, Kraków.
- Chodyński A. (2012), Proekologiczne, regionalne powiązania przedsiębiorstwa [in:] Przekształcenia struktur regionalnych (ed. P. Raźniak), Oficyna Wyd. AFM, Krakowska Akademia im. Andrzeja Frycza Modrzewskiego, Kraków.
- Chodyński A. (2013a), Kompetencje sustainability przedsiębiorstwa w sytuacji kryzysu pozaekonomicznego, „Przegląd Organizacji”, no. 1.
- Chodyński A. (2013b), Nauki o bezpieczeństwie a nauki o zarządzaniu – paradygmaty i tożsamość, „Bezpieczeństwo. Teoria i Praktyka”, 2(XI).
- Chodyński A. (2007b), Wiedza i kompetencje ekologiczne w strategiach rozwoju przedsiębiorstw, Warszawa.
- Chodyński A., Huszlak W. (2013), Good business practices in execution of corporate social and ecological responsibility [in:] Improving the competitiveness of enterprises and national economies – determinants and solutions (ed. B. Krstič, co-ed. Z. Paszek), University of Niš, Faculty of Economics, Andrzej Frycz Modrzewski Krakow University, Niš.
- Chodyński A., Jabłoński A., Jabłoński M. (2008a), Environmental Corporate Social Responsibility (ECSR) – koncepcja strategiczna budowy wartości firmy oparta na kryteriach ekologicznych, „Przegląd Organizacji” No. 3.
- Chodyński A., Jabłoński A., Jabłoński M. (2008b), Strategia bezpieczeństwa ekologicznego przedsiębiorstwa, [in:] Zarządzanie rozwojem przedsiębiorstw i regionów, ed. A. Chodyński, Oficyna Wydawnicza AFM, Kraków.

- Ciszek M. (2010), Bezpieczeństwo biologiczne w aspekcie zagrożeń ekologicznych oraz jako autonomiczny nurt bezpieczeństwa narodowego, „DOCTRINA. Studia Społeczno-Polityczne”, No. 7.
- Freeman I., Hasnaoui A. (2011), The meaning of corporate social responsibility: The vision of four nations, *Journal of Business Ethics*, Vol.100, mai, No. 3.
- Grynkiewicz T., Sony: Hakerzy ukradli dane 100 mln kont, http://wyborcza.biz/biznes/1,101562,9534864,Sony__Hakerzy_ukradli_dane_o_100 mln_kont.html, access: 9.04.2014 r.
- Haber J. (1981), Bezpieczeństwo jako determinanta stosunków międzynarodowych, [in:] *Determinanty polityki zagranicznej i międzynarodowej*, Warszawa.
- Haffer R. (2011), Samoocena i pomiar wyników działalności w systemach zarządzania przedsiębiorstwem, Wydawnictwo Naukowe Uniwersytetu Mikołaja Kopernika, Toruń.
- Hull Z., (2008), Bezpieczeństwo ekologiczne (hasło), [in:] Ciszek M. (ed.), *Słownik bioetyki, biopolityki i ekofilozofii*, (ed.) Ciszek M., Wyd. PTF, Warszawa, No. 28.
- Huszlak W. (2011), Indicators of Corporate social and environmental responsibility according to Global Reporting Initiative, [in:] *Ekologiczne aspekty zarządzania rozwojem przedsiębiorstw regionów*, red. A.Chodyński, Oficyna Wydawnicza AFM, Kraków.
- Huszlak W. (2012), General and sector standards for social and ecological reporting, [in:] *Zarządzanie odpowiedzialnym rozwojem przedsiębiorstwa*, Oficyna Wyd. AFM, Krakowska Akademia im. Andrzeja Frycza Modrzewskiego, Kraków.
- International Network for Quality Assurance, <http://www.inqahe.org/gpqa/about-gpqa>, access: 16.04.2014
- Kaplan R.S., Norton D.P. (1996), *The balanced scorecard. Translating strategy into action*, Harvard Business School Press, Boston, Massachusetts.
- Konstytucja Rzeczypospolitej Polskiej
- Kopczewski M., Krawczyk J.M. (2011), Wybrane elementy bezpieczeństwa wewnętrznego państwa na podstawie założeń „Strategii bezpieczeństwa narodowego Rzeczypospolitej Polskiej”, „DOCTRINA. Studia Społeczno-Polityczne”, No. 8.
- Korzeniowski L.F. (2012), *Podstawy nauk o bezpieczeństwie. Zarządzanie bezpieczeństwem*, Difin, Warszawa.
- Laszlo Ch. (2008), *Firma zrównoważonego rozwoju*, Wydawnictwo Studio EMKA, Warszawa.
- Minyi W. (2011), Sustainability as stakeholder management, [in:] *Critical studies on corporate responsibility, governance and sustainability*, Vol.3, *Business and sustainability: concepts, strategies and changes* (eds. G.Eweje, M.Perry), Emerald Group Publishing Limited, Howard House, Wagon Lane, Bingley BD16 1WA, UK.
- Nakonieczna J. (2008), *Społeczna odpowiedzialność przedsiębiorstw międzynarodowych*, Difin, Warszawa,
- Oleksyn T. (2010), *Zarządzanie kompetencjami, teoria i praktyka*, Oficyna WoltersKluwer, Warszawa.

- Paliwoda-Matiolańska A. (2007), *Odpowiedzialność społeczna w procesie zarządzania przedsiębiorstwem*, Wydawnictwo C.H.Beck, Warszawa.
- Porter M.E. (2001), *Porter o konkurencji*, PWE, Warszawa.
- Prawo Ochrony środowiska z dnia 27 kwietnia 2001 r. (Dz.U. 2013, poz. 1232)
- Ridley G. (2011), National security as a corporate social responsibility: critical infrastructure resilience, "Journal of Business Ethics" 2011, vol.103, No. 1.
- Rogall H. (2010), *Ekonomia zrównoważonego rozwoju, Zysk i S-ka* Wydawnictwo, Poznań.
- Seelos Ch., Mair J. (2007), Profitable business models and market creation in the context of deep poverty: a strategic view," *Academy of Management Perspectives*", Vol. 21, November, 4.
- Stachowicz J. (2006), *Zarządzanie kapitałem społecznym procesem organizowania i rozwoju klastrów, doświadczenia z prac nad organizowaniem klastrów przemysłowych w województwie śląskim, Wyniki z prac projektu badawczego KBN nr 2H02D 03225 pt. Zarządzanie kapitałem intelektualnym w regionalnych sieciach proinnowacyjnych*, IBS PAN, [in:] J. Ryśnik, *Czynniki pozaekonomiczne funkcjonowania dystryktów przemysłowych* (rozprawa doktorska), Politechnika Wrocławska, Wrocław 2008, www.dbc.wroc.pl/Content/3091 (access: 20.05.2014)
- Sulowski S., Brzeziński M.(eds.) (2009), *Bezpieczeństwo wewnętrzne państwa. Wybrane zagadnienia*, Warszawa.
- Torugsa N., O'Donohue W., Hecker R. (2012), Capabilities, proactive CSR and financial performance in SMEs: Empirical evidence from an Australian manufacturing industry sector, "Journal of Business Ethics", Vol. 109, 4.
- Von WeltzienHoivik H., Shankar D. (2011), How can SMEs in a cluster respond to global demands for corporate responsibility?, "Journal of Business Ethics", Vol .101, June, No. 2.
- Wskaźniki ekorozwoju, (ed.) Borys T., *Ekonomia i Środowisko*, Białystok 1999.

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ORIGINAL SCIENTIFIC ARTICLE
Received: July 08, 2014
Accepted: September 18, 2014

LIFECYCLE ANALYSIS AS THE CORPORATE ENVIRONMENTAL RESPONSIBILITY ASSESSMENT TECHNIQUE

Abstract

Lifecycle analysis is one of the techniques for assessing the impact of enterprise on the environment, by monitoring environmental effects of the product along its lifecycle. Since the cycle can be seen in stages (extraction of raw materials, raw materials processing, final product production, product use and end of use of the product), the analysis can be applied to all or only some parts of the aforementioned cycle, hence the different variants of this technique. The analysis itself is defined in phases according to the of ISO 14040 standard series, and involves defining the objectives and scope of analysis, life cycle inventory data analysis, life cycle impact assessment and lifecycle interpretation. Although its use is characterized by certain disadvantages, it can be said that this is still a very valuable management tool without which one cannot imagine the process of effective environmental decision-making in the modern enterprise, and consequently the complete adoption of environmentally responsible way of doing business.

Keywords: *lifecycle analysis, ISO 14040, environmental responsibility*

JEL Classification: Q50, Q51, Q53

АНАЛИЗА ЖИВОТНОГ ЦИКЛУСА КАО ТЕХНИКА ПРОЦЕНЕ ЕКОЛОШКЕ ОДГОВОРНОСТИ ПРЕДУЗЕЋА

Апстракт

Анализа животног циклуса је једна од техника процене утицаја предузећа на животну средину, а кроз праћење еколошких ефеката производа дуж његовог животног циклуса. Како се циклус може посматрати етапно (екстракција сировина, прерада сировина у материјале, производња готових производа, употреба производа и завршетак употребе производа) тако се и анализа може односити на све или само неке делове поменутог циклуса, па отуд и различите варијанте ове технике. Сама анализа дефинисана је фазно према стандардима серије ISO 14040, па обухвата дефинисање циља и опсега анализе, анализу инвентара података, процену утицаја циклуса и интерпретацију добијених резултата. Иако њену примену карактеришу и одређени недостаци, може се рећи да је у питању ипак јако вредан управљачки алат без кога се не може замислити процес ефикасног еколошког одлучивања у савременом предузећу, па самим тим ни потпуно усвајање еколошки одговорног начина пословања.

Кључне речи: *анализа животног циклуса, ISO 14040, еколошка одговорност*

Introduction

Establishing environmental responsibility through the daily operations of a modern company, in terms of strengthening the global public pressure regarding more and more dramatic changes in the environment, seems to be the only acceptable solution for the whole business world. In this way it is possible to find support in a variety of methodological and solutions in the form of specific techniques of environmental impact analysis, such as Lifecycle analysis (LCA).

This paper examines the basic features, phases and variations of this technique, in order to determine its importance for the effective environmental performance management and establishing the environmentally responsible way of doing business. Thus, through the phases defined by ISO 14040 standard series, related to the goal and scope definition, lifecycle inventory data, lifecycle impact assessment and interpretation of all of the results obtained, the contribution of this technique to effective environmental decision-making at the corporate level is examined. The analysis, however, can cover all or only some parts of the lifecycle, hence the different variants of this technique.

LCA technique also shows some weaknesses. However, this work deals only with a good side of LCA, therefore the basic assumption is that this is a valuable tool for achieving and excellent indicator of the achieved level of environmental responsibility of an enterprise.

1. Importance of the lifecycle analysis for the corporate environmental management process

Lifecycle analysis (LCA) is a technique for determining the potential product impact on the environment that was created during its lifecycle. The product lifecycle consists of all of the stages from product “birth” to its “death” - from the raw materials extraction, material production and its processing to final product through product use until the end of use, with the transport activities connecting all these phases (Figure 1).

Figure 1 - Stages of the product lifecycle



Source: Marcel Gómez Consultoria Ambiental (2013) *Life Cycle Assessment consultancy services*, viewed 25.12.2013. <http://www.marcelgomez.com/eng/?page_id=1604>

International Organization for Standardization (ISO) defines LCA as a technique assessing the environmental aspects and potential impacts associated with the product.¹ It is a targeted process of reviewing the “environmental burden” of the product, process or activity, by identifying the amount of energy and matter taken from, and the amount of waste and pollution thrown into the environment, but also the assessment of opportunities for improvements in the area of corporate environmental responsibility.² The purpose of this technique is, by using a holistic comparative analysis of the environmental effects of products and services through their “lifetime”, to examine the possibility of improving the production process, to support the environmental strategy of the company and to improve the decision-making process, which ultimately leads to its environmental management improvement. It is actually possible to talk about the following objectives of this technique:³

- providing the complete picture of the enterprise interaction with the environment;
- to aid in understanding the comprehensive and interdependent character of the environmental consequences of human activity;
- to provide information to decision-makers which determine the environmental impact of business operations and identify possible opportunities of improving corporate environmental responsibility.

It is the last of these goals that can be considered as critical for success in the correct anticipation of the importance of establishing an environmentally responsible way of doing business. However, the gained information is intended not only to producers and their management team, but also suppliers, customers and all of other stakeholders. All of them together, thanks to this technique, can improve the environmental performances of their products in any segment of product lifecycle, can identify the relevant indicators and measures, and “green” their marketing.

Finally, it is possible to speak about the basic characteristics of this technique:⁴ a) LCA makes evaluation systematically through the inclusion of all aspects and impacts on the environment, b) it refers to the functional parts of the product, c) the depth of analysis and the time needed to finalize it, depend on the goal of the analysis, d) depending on its application, LCA ensures the needed level of confidentiality and copyright, d) it is open to new knowledge and application of new methods and techniques, f) where appropriate, it includes specific requirements (especially for public use of the product), e) although there is no uniform method of its application, this technique is flexible enough to adapt to each product, f) it differs from other techniques with similar purposes but it connects to them through shared information and g) it does not predict an absolute or precise impacts on the environment. All this indicates the importance of this technique in terms of proper identifying the relations between company and environment, and thus the recognition of possible directions for the

¹ International Standardisation Organisation (ISO) (1996), *Environmental management – Life cycle assessment – Principles and framework – ISO 14040*, ISO, Paris

² Fava J., et al. (eds.). (1991) *A Technical Framework for Life Cycle Assessment*, SETAC and SETAC Foundation for Environmental Education Inc., Washington, pp. 160-165.

³ SETAC (1993) *Guidelines for Life-cycle Assessment: A "Code of Practice"*, SETAC workshop in Sesimbra, Portugal, 31 March–3 April, pp. 7-9.

⁴ Arsovski, S., Grubor, S., Tonic, N., Koki Arsic, A., Kanjevac Milovanovic, K. (2011) 'Postupak ocenjivanja životnog ciklusa proizvoda', *Festival kvaliteta - FK2011 - 6 - Nacionalna konferencija o kvalitetu života*, Beograd, Srbija, str. B131-B136.

development and/or further improvement of corporate environmental responsibility, and above all, by providing the necessary information that support the process of environmental decision-making, and even beyond – corporate environmental management.

2. Lca elements according to iso 14040 standard series

Procedure and phases of the lifecycle analysis are part of the ISO 14040 standard series (Environmental management - LCA). These are the standards that explain in detail the basic phases of LCA, and its methodological structure.⁵ Thus it is possible to speak about the following standards:

- ISO 14040:2006 - principles and framework;
- ISO 14041:1998 - defining the scope and objectives and inventory analysis (first and second phase);
- ISO 14042:2000 - lifecycle impact assessment (third phase);
- ISO 14043:2000 - lifecycle interpretation (fourth phase);
- ISO 14044:2006 - requirements and guidelines;
- ISO 14047:2003 - illustrative examples of the ISO 14042:2000 application;
- ISO 14048:2002 - format of LCA data documentation and
- ISO 14049:2000 - illustrative examples of the ISO 14041:1998 application.

All phases of this analysis are interrelated and interdependent (Figure 2). The first phase of LCA involves clearly defining the goals and scope of analysis, which is essential if you want to avoid inaccurate and erroneous results.⁶ Already at this stage, you should know the purpose of this procedure, its temporal and spatial extent, which functional units will be evaluated, what is the group of selected targets, which will decisions will analysis results support as well as which will the scope of those decisions be. Based on the defined goal and scope of the analysis, the second phase determines the inventory of all input/output data related to the flow of matter, energy, and pollution of the observed system (Lifecycle Inventory Analysis - LCI). All the named data are crucial in achieving the objectives defined by the previous phase and the accuracy of the entire LCA depends on their accuracy, and this is because this phase defines the system to be included in the analysis as well as its limitations. The third phase refers to the actual lifecycle impact assessment (LCIA), which assumes the determination of impact categories, classification and characterization of environmental impacts, all based on the results of the first two phases. The determination of impact categories in direct relation depends on the selected goals of the analysis, while bearing in mind some general categories such as health, resource depletion etc, where they are further operationalized through specific impacts in the form of global warming, ozone depletion etc. Then the impacts are being analyzed, quantified and their value calculated, which requires significant knowledge of the cause-effect relation observed in the previous phase. Therefore, this phase is realized as an iterative process for the previous two phases, in the case of a change of objectives, scope, and data sources.⁷ Finally, the fourth phase by which the whole analysis is being

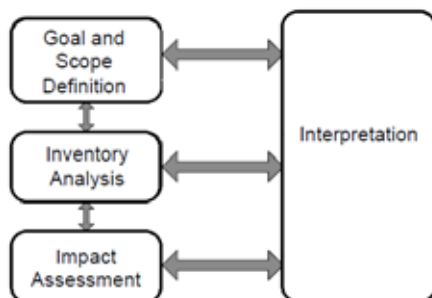
⁵ Stevanović Čarapina, H., Mihajlov, A., Stepanov, A. (2010) 'Uspostavljanje održivog sistema upravljanja otpadom - primena koncepta LCA (analiza životnog ciklusa)', *Međunarodni 5. simpozijum "Reciklažne tehnologije i održivi razvoj"*, Soko Banja, Srbija, str. 22-29.

⁶ Frankl, P. & Rubik F. (2000), *Life Cycle assessments in Industry and Business, Adoption Patterns, Applications and Implications*, Springer, Berlin, pp. 9-51.

⁷ Arsovski, S., Grubor, S., Tonić, N., Koki Arsić, A., Kanjevac Milovanović, K. (2011) 'Postupak

terminated, refers to the interpretation of the results obtained under the previous two phases. The results are summarized and used as a basis for conclusions, recommendations and decisions in accordance with the goals and scope of the analysis, which by standards should be communicated transparently. For the “confidence limits” of the results it is necessary to take the economic and environmental perspective into consideration. If it is determined that such limits during the analysis were considerably exceeded, the ultimate conclusion of the analysis and on it based decisions will be called into question.⁸

Figure 2 - Phases of lifecycle assessment (LCA)



Illustrated according to: EN ISO (2006) *Environmental management – Lifecycle assessment – requirements and guidelines*, ISO 14044: 2006, NSAI, Dublin, pp. 1-46.

This analysis also has certain drawbacks.⁹ Thus, it may be objected that it does not have a pre-defined framework, which always takes place and in every situation, so if, for example, the observation boundaries of the system or a spatial component change, that will lead to quite different results. This analysis also lacks the comprehensive data as inputs at start of the process, and very often brings into question the reliability of other data in the analysis. It is a technique that often ignores the economic and social effects, tangents only potential and not the actual impacts, technique that is too slow to be applied in the design process, or in dynamic markets and technologies changes monitoring. However, LCA is the only technique that examines the environmental impact of a product across its lifecycle, it is standardized according to ISO rules, provides important information needed in the environmental decision-making, which consequently affects the character of the environmental responsibility of an enterprise, and can be considered as one of the most important techniques of environmental management at a corporate level.

3. LCA variants

There are several variants of this technique, as seen from the perspective of their range within the lifecycle, namely the stages that their analysis applies:¹⁰ “cradle to

ocenjivanja životnog ciklusa proizvoda', *Festival kvaliteta - FK2011 - 6 - Nacionalna konferencija o kvalitetu života*, Beograd, Srbija, str. B131-B136.

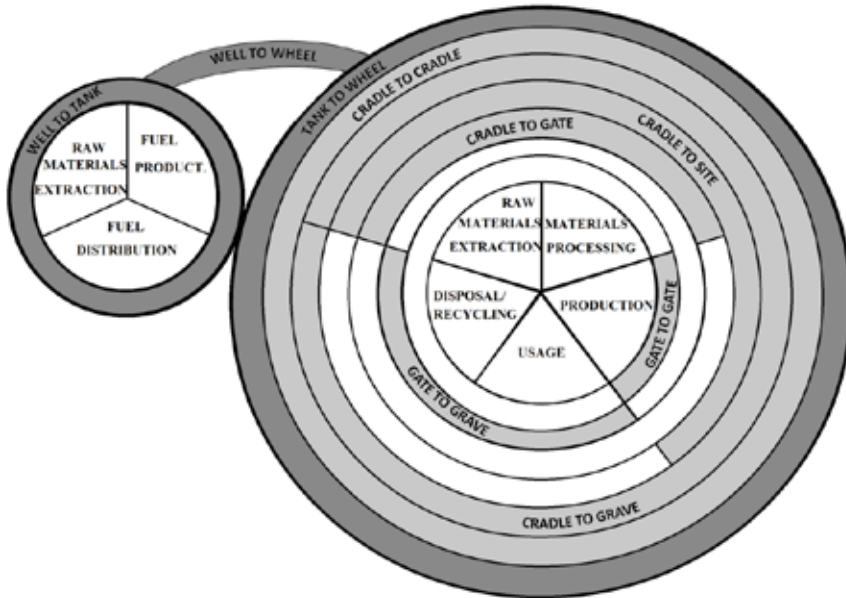
⁸ Schaltegger, S. (1996), *Life cycle assessment (LCA) – quo vadis?*, Birkhäuser, Basel, pp. 11-27.

⁹ Johnson, U. (2003) *Fundamentals of LCA*, In LCA/LCM Conference Seattle Center, Seattle, Washington, pp. 1-27.

¹⁰ Schenck, R. (2009) *Introduction to Life Cycle Assessment Scoping & Inventory*, US EPA Region

grave” and “cradle to cradle” approach, “cradle to gate”, “gate to gate” and “gate to grave” approaches, “cradle to site” and “well to wheel” approach (Figure 3).

Figure 3 - Different variations of lifecycle analysis



“Cradle to grave” is the entire product lifecycle analysis, from the raw materials extraction (“the cradle”) to the waste disposal, which according to this approach considers to be the end of the cycle (“the grave”). It is based on the eco-efficiency principle and is currently one of the most common variants of product lifecycle analysis in the world. However, apart from this one, another variant of LCA is also often used - “the cradle to cradle” approach. It is a specific type to the previous variant access, since what is in “the cradle to the grave” analysis seen as the end of the cycle (“grave”) according to this newer approach, and thanks to the modern waste management systems, here is actually seen as a new cycle starting point (the new “cradle”). It represents the approach to minimizing the negative environmental impacts of businesses, primarily through the sustainable production systems development, new waste management approaches and through the inclusion of social responsibility dimension in the product development, which emphasizes the eco-efficiency principle.¹¹ What is interesting for this approach is that it makes an analogy with natural processes. The artificially created materials, as one of the results of the industrial processes, are considered analogous to the nutrients that circulate endlessly in a healthy metabolism of a living organism, so this way the concept of infinite lifecycle of non-living things modeled by the living world is being created (the technosphere is equal to the biosphere, and the waste = food in this analogy). It is also interesting that the “cradle to cradle” approach classifies all materials/raw materials used

X, American Center for Life Cycle Assessment, Washington, pp. 1-51.

¹¹ Cradle-to-cradle design is a protected brand by the consulting firm MBDC (McDonough Braungart Design Chemistry), which owners are also the creators of the mentioned design.

in industrial processes into only two categories:¹² technical food (technical nutrients), which includes non-toxic, safe synthetic materials that do not have negative impact on the natural environment and that still maintain their properties, and biological food (biological nutrients), which refers to organic matter that, after use, can be returned to any type of natural environment, which part they became and thus provide food for microorganisms without affecting the environment.¹³

The “cradle to gate” approach is a partial analysis of the product lifecycle, because it relates only to the stages from raw material extraction (“cradle”) to the start of production (“gate”), so it excludes all the stages of post-production. It is used in the creation and issuance of environmental product declarations, and it is also important for the enumeration and quantification of raw materials and energy inputs in production processes. This because it is based on an isolated observation of certain phases of the lifecycle, which levels up the accuracy of the entire analysis. However, it is possible to include the transport to the production process as well as the production process itself in this analysis, and examine the whole process of creating product value before its delivery to customers.¹⁴ If the analysis is expanded even to the stage of the final products production, we get a “cradle to site” approach.

In contrast to “cradle to gate” approach, “gate to gate” analysis has the more narrow aspect of observation, because it applies only to the production process within the “factory gates”, regarding the value creation only in the final products production process, which makes the analysis even more precise. Lifecycle stages after which product exceeds “the factory gates” is being analysed by the “gate to grave” approach.

Well to wheel is a specific application of this analysis for understanding the functions of transport and fuel used along the way. Therefore it is often divided into two sub-phases: the “well to tank” phase, which includes all activities related to the extraction of raw materials, production and distribution of fuel and “tank to wheel” phase, which is related to activity of transport itself. It is the consideration of energy consumption, efficiency of energy conversion and environmental impact of emissions created by transportation process, which is very important when you take the level of pollution that is created thereby into account.

LCA, therefore, can serve as a powerful tool for the corporate environmental impacts analysis, and thus a very important instrument for environmental management of an enterprise. Its basic starting point is that the corporate actions have an environmental restrictions, so the enterprise should find out what is the source of conflicts between the its product and the environment. Therefore it can be concluded that the primary role of LCA is to identify, in ecological terms, the dominant phase of the product lifecycle, but also to help environmental management contribute to the conflict arising moments and situations resolution, thus contributing to a more efficient development of corporate environmental responsibility.

¹² McDonough, W. & Braungart, M. (2002) *Cradle to Cradle: Remaking the Way We Make Things*, North Point Press, New York, pp. 22-25.

¹³ Both of these types of materials, follow their lifecycle in the regenerative economic systems that was set up by McDonough and Braungart.

¹⁴ Franklin Associates - A Division of Eastern Research Group (2010) *Cradle-to-gate Life Cycle Inventory of Nine Plastic Resins and Four Polyurethane Precursors*, The Plastics Division of the American Chemistry Council, Kansas, pp. 7-9.

Conclusion

Lifecycle analysis has proved to be a valuable technique for supporting environmental decision-making in an enterprise and in relations with all of its stakeholders. Its main task is related to assessment of the product/process impact that is made along the lifecycle - from its “birth” to its “death”.

The application of this technique in the field of strategic planning, environmental policy formulation, marketing and quality and design improvement, is carried out through several stages defined by ISO 14040 standard series. Through these phases the potential environmental impacts of a product are revealed, with emphasis on those that are negative. As the analysis is carried out through stages of the lifecycle, it is possible to act preventive, ex ante, and not to wait until the product reaches the end of its lifecycle in order to establish that along this way any negative environmental effects have occurred. This is particularly important from the perspective of decision-maker, for whom are timely and reliable information base for further business improvements.

Thus, this technique can prevent the emergence of a number of problems in the relations between the companies and the environment, as well as sanctions regarding the same. Also, this technique can reveal that the process of “greening” was successfully carried out, so any significant environmental problem along product lifecycle will not occur. Therefore, it is concluded that LCA can serve as a tool for building corporate environmental responsibility, but also as a great confirmation of its results.

References

- Arsovski, S., Grubor, S., Tonić, N., Koki Arsić, A., Kanjevac Milovanović, K. (2011) ‘Postupak ocenjivanja životnog ciklusa proizvoda’, *Festival kvaliteta - FK2011 - 6 - Nacionalna konferencija o kvalitetu života*, Beograd, Srbija, str. B131-B136.
- EN ISO (2006) *Environmental management – Lifecycle assessment – requirements and guidelines*, ISO 14044: 2006, NSAI, Dublin
- Fava J., et al. (eds.). (1991) *A Technical Framework for Lifecycle Assessment*, SETAC and SETAC Foundation for Environmental Education Inc., Washington, pp. 160-165.
- Frankl, P. & Rubik F. (2000), *Lifecycle assessments in Industry and Business, Adoption Patterns, Applications and Implications*, Springer, Berlin, pp. 9-51.
- Franklin Associates - A Division of Eastern Research Group (2010) *Cradle-to-gate Lifecycle Inventory of Nine Plastic Resins and Four Polyurethane Precursors*, The Plastics Division of the American Chemistry Council, Kansas, pp. 7-9.
- ISO (1996), *Environmental management – Lifecycle assessment – Principles and framework – ISO 14040*, ISO, Paris
- Johnson, U. (2003) *Fundamentals of LCA*, InLCA/LCM Conference Seattle Center, Seattle, Washington, pp. 1-27.
- Marcel Gómez Consultoria Ambiental (2013) *Lifecycle Assessment consultancy services*, viewed 25.12.2013. <http://www.marcelgomez.com/eng/?page_id=1604>
- McDonough, W. & Braungart, M. (2002) *Cradle to Cradle: Remaking the Way We Make Things*, North Point Press, New York, pp. 22-25.

- Schaltegger, S. (1996), *Lifecycle assessment (LCA) – quo vadis?*, Birkhäuser, Basel, pp. 11-27.
- Schenck, R. (2009) *Introduction to Lifecycle Assessment Scoping & Inventory*, US EPA Region X, American Center for Lifecycle Assessment, Washington, pp. 1-51.
- SETAC (1993) *Guidelines for Life-cycle Assessment: A “Code of Practice”*, SETAC workshop in Sesimbra, Portugal, 31 March–3 April, pp. 7-9.
- Stevanović Čarapina, H., Mihajlov, A., Stepanov, A. (2010) ‘Uspostavljanje održivog sistema upravljanja otpadom - primena koncepta LCA (analiza životnog ciklusa)’, *Međunarodni 5. simpozijum “Reciklažne tehnologije i održivi razvoj”*, Soko Banja, Srbija, str. 22-29.

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ORIGINAL SCIENTIFIC ARTICLE
Received: June 16, 2014
Accepted: September 24, 2014

THE LEGAL PRESUMPTIONS IN THE MECHANISM OF REGULATION OF FINANCIAL RELATIONS

Abstract

The correlation of legal presumptions with such interconnecting categories as legal hypothesis, legal version, legal axiom and legal principles is analyzed. Certain features of practical application of presumption of guiltlessness and presumption of knowledge of financial legislation in financial law are determined. The functions of legal presumption in financial law are grounded.

Key words: legal presumption, financial legal responsibility, presumption of guiltlessness, presumption of knowledge of financial legislation.

JELClassification: G3, G38

ПРАВНА ПРЕЗУМПЦИЈА КАО МЕХАНИЗАМ РЕГУЛИСАЊА ФИНАНСИЈСКИХ ОДНОСА

Апстракт

У овом научном раду анализиран је однос правних претпоставки са сродним категоријама, као што су правна хипотеза, правна верзија, правни аксиом, правни принципи. Дефинисане су карактеристике практичне примене претпоставке невиности и презумпције знања финансијског законодавства у финансијском праву. Објашњена је функција правних претпоставки у финансијском закону.

Кључне речи: правна презумпција, финансијско-правна одговорност, презумпција невиности, презумпција знања финансијског законодавства.

Background

The rule of law always exists within the system of other normative instructions and is a part of an integrated system of legal regulation. The system of financial legislation is a hierarchical entity, where some legal rules have higher legal force than the others. Ideally, the entire system of financial legislation should be a set of rules which do not conflict with one another, i.e. which do not regulate the same financial legal relations in a different way. However, this ideal is not attainable in principle. It is due to the concept that the system of financial legislation is a complex social system, which comprises interests of different social groups and formations. The competitive interests in the normative regulation ensure the presence of certain contradictions in the system of financial law. It is normal for any legal system. In

other words, the conflict of legal rules has always been, is and will always be. The task is to create an effective system of control, first of all, of court control, over the compliance of a certain legal rule to the rule of higher legal force. The doctrine of supremacy of law has been used in the Decision of the Constitutional Court in the case concerning the compliance of the Law of Ukraine “On the Accounting Chamber of Verkhovna Rada of Ukraine” (the case concerning the Accounting Chamber) No. 7/1997 dd. 23 December 1997 with the Constitution of Ukraine (constitutionality) [1]. The Constitutional Court used in this Decision the principle of the supremacy of the Constitution as part of the doctrine of supremacy of law and pointed out that the supremacy of constitutional rules should be applied to all spheres of governmental activity, including the legislative process. Thus, a general principle of law has been proved that can be used in similar situations and act as a legal presumption. This perspective clearly underlines the political importance of presumptions in financial law, which is driven by the need of implementation of the state public purposes aimed at the carrying-out of financial policy of the state.

Analysis of scientific studies and publications

This article is based on the works of the Soviet scientists and contemporary national and foreign researchers, as well as on the current legislation and case law. The analysis of D. Meyer’s work “On legal fictions and assumptions, hidden and pretended actions” written in 1854 has a particular importance for a keen understanding of the importance of legal presumptions in law in general and in financial law in particular. Other important scientific achievements are presented in the works of S. Kravchenko, D. Hetmantsev, V. Babayev, S. Guseva and others.

Problem definition

Public financial legal relations are inherently conflictive. The desire of fiscal authorities to replenish the treasury is objectively in conflict with the desire of entities of financial legal relations to retain their property. Thus, the role of legal presumptions, and at the same time the problems of their use lie in the fact that presumptions act in the minds of entities of financial legal relations as the truth, as a certain regulator of financial behavior. They normatively set forth the most important legal relations for them, implement a common approach to life-critical situations and reduce the number of conflicts.

The main content of the study

Analyzing the role of legal presumptions in the regulation of financial legal relations, it is necessary, first of all, to find out, why the legislator uses this particular technique of legal technology. In other words, it is necessary to find out what is the functional load of legal presumptions in the mechanism of financial regulation.

The conflict between the desire of the state to collect more taxes and the desire of taxpayers to pay less has always existed. According to Wagner’s Law on increasing of state spending, tax claims are constantly increasing. This, in turn, increases the resistance to the tax, which is confirmed by A. Laffer’s theory: the increasing of taxes by raising

their rates at a certain point does not compensate for the reduction of treasury revenues due to the rapid reduction of incomes being taxed [2; 3, p. 12].

The state inevitably is faced with the problem of introducing a regime of financial control of public legal relations. For example, the taxation relies on the distribution of the tax burden by the actual financial solvency of taxpayers. That is why it is necessary to determine this solvency while defining the tax elements. The desire to determine precisely the solvency inevitably leads to complications in taxation technology, i.e. those legal techniques and mechanisms, which regulate the process of taxation. One of these legal techniques is the use of legal presumptions in defining the tax elements.

The legal presumption in financial law is an obligatorily judgmental, which is directly or indirectly fixed in financial legislation and has the nature of probability of the presence or absence of a single legal fact subject to the presence of another legal fact in financial legal relations. The presumable fact in defining the tax elements in that case is the solvency of the taxpayer. The external forms of wealth, i.e. the presence of luxury goods, valuable property etc. (e.g. the projects of implementation of the so-called luxury tax), can act as the basis of the presumption (a presumable judgment concerning the solvency of the person). In this regard, the analysis of legal presumptions of the elements of the legal tax structure should be aimed at defining the fact, how adequately this or that presumption carries out its primary role, i.e. ensures the implementation of the principle of keeping the actual ability to pay a tax.

To determine the important role of the use of legal presumptions in the regulation of financial legal relations it is also necessary to define the correlation of presumptions with such related categories as legal hypothesis, legal story, legal axiom, legal principles and legal prejudice.

Analyzing the relations of legal presumption and legal hypothesis it should be accepted that the similarity of the presumption and the hypothesis lies in their nature and in a common inductive method of their formation. The differences lie in the conditions and causes of their formation, in the nature and consequences of rebuttal. The first ones reflect a simple order of things, proven by practice. They are accepted as the truth without proof. The hypothesis cannot be accepted as the truth without proof [4, p. 48]. For example, in verifying the legitimacy of the income received by individuals, the illegality of the origin of the personal income should be proved not by the state, if the state has suspicions (hypothesis). In this case the citizen has to provide sufficient information to the appropriate authorities regarding the legality of the source of the origin of his income. Thus, there is a definite departure from the absolute application of the principle of presumption of guiltlessness in the confirmation of the legality of the income.

The Russian researcher S. Guseva quite correctly drew attention to the fact that the hypothesis contains incompleteness in itself. The cognitive process cannot be finished at the stage of hypothetical achieving of the truth. The hypothesis inevitably requires the proof. The presumption characterizes such a state of the knower, when the scope of collected information on the properties of the individual generates a conviction of the truth of the knowledge of essential internal properties to a greater or lesser extent [5, p. 32].

When comparing the legal presumption and legal story, it is necessary to consider that the latter is a kind of hypothesis. Their common characteristics lie in an inductive method of formation and probability of these judgments. The differences lie in the fact that legal presumptions retain their influence for a long time. Legal stories are set out in case of violation of regulations of financial and legal rules in each particular case. They are characteristic of the financial and legal responsibility, particularly in the investigation of the facts of financial violations. The role of the legal presumption in this case is that it can be included with the legal story, for example, the presumption of guiltlessness of the

entity of financial legal relations, against which the legal stories of its involvement into a particular financial violation are set out.

The legal presumption significantly differs from the legal axiom. The opinion that the axiom is the truth requires no proof because of its obviousness, it expresses the truth in a comprehensive form (*The Constitution* is the supreme legislative act and the stated rights of a person relate to the entities of financial legal relations to the fullest extent). Although the axiom is not an absolute truth (everyone has the right to contest any regulations of a financial legal rule in the court), it contains a provision the truth of which is required to be recognized, and doubts in its truth are impossible. The generally known facts can be classified as axiomatic (taxation of income, violation of financial legal rules inevitably leads to bringing to financial legal responsibility, etc.). Thus, the legal presumption and the legal axiom differ in content, but the legal axiom can contribute to the formation of the legal presumption. For example, violations of financial legal rules always involve financial legal responsibility, as the legal axiom gives rise to such legal presumptions as presumption of guiltlessness, presumption of knowledge of the legislation and so on.

Analyzing the legal presumptions and legal prejudice, we should agree with Babayev V.K., that they both do not require any proof [6, p. 32].

According to O.Skakun, prejudice is the elimination of voidability of legal probability of once proven fact. If the court or other jurisdictional authority has already established certain facts (after their inspection and evaluation) and stated them in the relevant document, they are recognized as prejudicial, i.e. as such that are considered established and true, that do not require a new proof in a new hearing of the case [6, p. 393].

As a good example of prejudicial fact in financial legal relations can rightly be considered the Decision of the Constitutional Court of Ukraine No.7-рп/2001 dd. 30.05.2001 (the case concerning the responsibility of legal entities), which clearly states the non-administrative nature of such kind of legal responsibility [7].

An important difference between prejudices and presumptions is that prejudicial facts are not included into the fact of proof and presumption facts can be included, if they are negated by the adverse party. Thus, according to the Article 35 of the Commercial Procedure Code [9] “the facts that are established by the decision of the Commercial Court (or by other authority that decides commercial disputes), ...during the hearing of one case are not proved again in deciding other disputes involving the same parties”. This legal rule as a legal presumption could hypothetically be implemented in the process of administrative proceedings.

Analyzing the correlation between the legal presumptions and legal principles, it should be noted that the legal principles are, in fact, the most common, universal social and philosophical foundations of the functioning of public financial legal relations.

The presumption differs from the principle by its origin and the scale of coverage of legal system. The principles have a general system-forming nature, and the presumption – a private one. However, in some cases, according to S.V. Guseva, presumptions take on the general principles of the system organisation: for example, the principle of presumption of guiltlessness [5, p. 68].

The presumptions-principles of law also comprise common legal presumptions that act in various spheres of law. The following ones are to be distinguished: the presumption of truth and purposiveness of public legal act, according to which all regulatory acts are assumed as such that properly reflect social relations; the presumption of legal personality of the participants of legal relations; the presumption of honesty of the citizens; the presumption of knowledge of laws by the legal entities; the presumption of guiltlessness; the presumption of lawfulness and fairness of judicial decisions. The importance of the role of presumptions in legal regulation should be emphasized. As a rule, there are no objections in legal literature concerning the fact that the presumptions

act as principles of law and are legal techniques. That means that this absolutely applies to the sphere of public financial legal relations as well.

The special role of legal presumptions in the regulation of financial legal relations also lies in an ambiguous legal interpretation of their certain types. Thus, the most commonly used and ambiguous presumptions in the regulation of public financial legal relations are the presumption of guiltlessness and the presumption of knowledge of financial legislation.

The presumption of guiltlessness was formulated for the first time in Art. 9 of Declarations of Rights of Man and of the Citizen published in 1789. The proclamation of the presumption of guiltlessness meant the abandonment of the principles of the medieval inquisitorial process.

A significant imbalance of the legal status of the state and the entities of financial legal relations, as well as the principle of the priority of public interest over private interest that exist in the domestic financial law during all pre-Soviet, Soviet and contemporary history are the barriers that haven't been solved at the legislative level so far.

The apparent domination of the public interest over the private interest, the leveling of the first towards the latter was perceived seamlessly in the administrative-command system of the USSR. After all, the idea that the individual must fully sacrifice his own interests in favour of the public ones was the basis of the official state ideology. Naturally, it could not remain non-reflected in the most imperative field of Soviet law, i.e. in financial law. Thus, financial law of the Soviet and post-Soviet period was vested with a number of rules and principles that imperatively settled the domination of the state in a public financial sphere. It is proved by many facts, for example, by the fact that the concept of financial violation is not determined at the legislative level, and the analysis of tax legislation makes to state that the basis for the financial legal responsibility is, as a rule, an act (a violation), in which the guilt of the violator is not an obligatory feature.

Even in the absence of specific indications concerning the guilt as the basis for financial legal responsibility, the special role of the presumption of guiltlessness should lie in the fact that it should remain an essential element of a financial violation because of the general legal principle ***“there is no responsibility without guilt”***.

However, according to a national researcher D. Hetmantsev, the practice of regulatory and law enforcement authorities was for quite a long time the use of financial legal responsibility only on the basis of the mere fact of a wrongful act, without any consideration of the subjective grounds of legal responsibility [10, p. 7]. Moreover, the burden of the proof of guiltlessness and lack of evidence in an administrative procedure of collateral attack of the decisions of the tax service lies upon the taxpayers and not upon the tax authority.

Another controversial issue in financial law is the guilt of the legal entity. There are different points of view, including those which deny the possibility of applying the notion of guilt to such category as a legal entity. In domestic financial legislation there is also no unambiguity concerning this issue. For example, tax legislation specifies that the tax authority has to prove the guilt of any taxpayer, and no exceptions with respect to taxpayers-legal entities are not provided. Taking into consideration the presumption of guiltlessness, the guilt of a legal entity is the guilt of the appropriate officials of the organization. The fact that officials are not separate subjects of taxation and are legal entities in tax relations generates the conclusion about the identity of the guilt of the officials and the organizations. It is also proved by the content of Art. 2 of the Law of Ukraine “On the responsibility of legal entities for corruption violations”, which states that “... the legal entity is responsible for the commission of violation of any kind on its behalf and in its interests by the head of the legal entity, its founder, member or other authorized person alone or in complicity...” [11].

Thus, the idea of a special character of the guilt of legal entities leads to consideration of the presumption of guiltlessness of the taxpayer in relation to taxpayers-

organizations, to recognition of either an a priori guilt of such entities or the absence of the practical significance of the principle of guilty responsibility of organizations.

Another problematic aspect of the application of legal presumptions, which reflects their role in the regulation of financial legal relations, is connected with ***the presumption of knowledge of financial legislation***, which in general terms can be defined as follows: *everybody is assumed as the one who knows the laws, until otherwise is proven*. Under the law all applicable laws are understood. The legal basis for the presumption of knowledge of financial legislation is the responsibility of all and everyone to obey the laws. The most difficult question is whether any deviation from this algorithm is allowed in certain cases or not. In other words, whether the presumption of knowledge of the laws is a rebuttable presumption or not. According to most authors, the presumption of knowledge of the legislation is rebuttable and in some cases there are permissible exceptions from the rule “ignorance of the law is not an excuse”. There is also an opinion about the irrefutable nature of the presumption of knowledge of the law. For example, in English law the presumption of knowledge of the legislation is considered as irrefutable. Even D. Meyer explained the irrefutability of the presumption of knowledge of the legislation, first of all, by the fact that the laws are the reflection of the legal opinion of the people, so everyone involved in the legal life is conscious of prevailing legal opinions. On the other hand, D. Meyer pointed out that the irrefutable nature of this presumption is caused by the necessity, as without this provision a great amount of the laws would remain without coordinated approvals [12, p. 54-55]. Financial law with its large number of complex rules would hardly be considered as originally laid down into the legal consciousness of the citizens. Besides, the presence of the companies that provide services concerning “taxation optimization”, simplification of customs control, bypassing of foreign exchange regulation in the domestic market only confirms the refutability of this presumption.

The role of legal presumptions in the regulation of financial legal relations is also reflected in the functions they perform. The concept of “function” has been thoroughly analyzed subjected to the study of the role and purpose of law in general, however, the problem of defining the functions of presumptions in law as a special means of legal regulation is still neglected by researchers.

Due to the fact that presumptions are a part of the system of law, and they possess the main functions of law, namely: regulatory and protective ones.

The regulatory function of presumptions is connected with the reform of legal regulation in almost all spheres of financial legal relations and the introduction of fundamentally new spheres of legal regulation. According to O.A. Kuznetsova, the presumptions are aimed at overcoming of gaps in the law, they “save” the legal regulation, simplify and reduce regulatory legal direction and serve as a means to overcome the uncertainty in the legal sphere [13, p. 64].

The protective function of presumptions implies that they are a means of normative organizational impact on the financial legal relations with a view to their protection and regulation. For example, in criminal law the presumption of guiltlessness is valid in holding a person criminally responsible - the guilt of the accused person is proved by the public authority, he himself is exempt from the necessity to prove his innocence. In civil law another presumption is valid - the guilt of the person that caused damage, according to which: the person is considered guilty, in case the objective side of the violation is present, until otherwise is proved. Both presumptions are a means of protection of interests of an individual, his personal and property rights [14, p. 31]. Similarly, presumption of guiltlessness should be fixed in financial law at the legislative level, especially in tax legal relations.

Thus, every presumption that is formulated by the legislator is aimed at the

protection of various interests, rights and freedoms of entities of financial legal relations - this is the realization of the protective function by means of presumptions.

Most of works of foreign scientists consider the problem of presumptions as a procedural matter. Thus, S. Venegas states that the category of presumption belongs to procedural sphere [15, p. 62]. S. Movellan defines presumption as a procedural rule which has a probative value and makes the evaluation of the evidence possible [16, p. 49]. Nevertheless, the scope of the functional purpose of presumptions cannot be limited by the process only. But is undeniable, that presumptions may show themselves in the most active way in procedural activity.

Y.O.Serikov was the first researcher who raised the issue of research of the procedural functions of presumptions. The presumptions alone or in combination with other means are able to achieve the main goals of jurisdiction, namely the protection of the rights and legitimate interests of the persons, the strengthening of legality and prevention of violations, the formation of respect towards the law and court, etc. [17, p. 103]. In his opinion, the presumptions possess such procedural functions as: the establishment of the facts concerning the subject matter of proof; the release of the party from confirmation of the fact being presumed; the function of procedural saving; the imperative function.

Conclusions

The features of the subject of legal regulation of financial law determine the necessity of more stringent imperative regulation of the relations of the parties than, for example, in commercial or administrative law. Taking into consideration the mentioned above, the decisive role of legal presumptions in the regulation of financial legal relations should be limited, first of all, to securing of legal guarantees for entities of financial legal relations; secondly, the legal presumption must remain an essential element of a financial violation structure; thirdly, the role of legal presumptions in regulation of financial legal relations is also reflected in the protective and regulatory functions they perform.

It should be noted that some aspects of financial legal relations should be clearly regulated by financial and legal rules, and not by presumptions. These are:

- procedure and mechanism for the protection of the entities of financial legal relations in the process of application of financial and legal sanctions;
- circumstances which exclude the responsibility of a person for committing a financial violation (with the obligatory prediction of such a ground as lack of guilt of the subject);
- a clear list of grounds, to which a person can avoid the financial and legal responsibility;
- circumstances mitigating and aggravating the responsibility for committing the violation;
- mechanism of compromise between a control authority and the entity of financial legal relations.

References

Рішення Конституційного Суду України № 7-зп/1997 від 23.12.1997 р. у справі за конституційним поданням Президента України щодо відповідності Конституції України (конституційності) Закону України «Про Рахункову палату Верховної Ради України» (справа про Рахункову палату)

- Закон Вагнера // Энциклопедичний словник економіки і права. – Електронний ресурс. – Режим доступу: http://dic.academic.ru/dic.nsf/dic_economic_law/4512/%D0%97%D0%90%D0%9A%D0%9E%D0%9D
- Україна має використовувати «криву Лаффера» / Кравченко С. «Львівський політехнік». – 12 квітня 2006. – с. 10-16
- Веденеев Е.Ю. Роль презумпций в гражданском праве, арбитражном и гражданском судопроизводстве / Е.Ю. Веденеев // Государство и право. – 1998. – № 2. – С. 48-54
- Гусева С.В. Презумпции в системе философско-правовых категорий / С.В. Гусева. – Философская и правовая мысль: Альманах. – 2001. – Вып. 4. – 328 с.
- Скакун О.Ф. Теорія держави і права : Підручник Харків: Консум, 2001. — 656 с.
- По справі за конституційним зверненням відкритого акціонерного товариства «Всеукраїнський Акціонерний банк» відносно офіційного тлумачення положень пункту 22 частини першої статті 92 Конституції України, частин першої, третьої статті 2, частин першої статті 38 КУпАП (справа про відповідальність юридичних осіб) : рішення Конституційного Суду України № 7-рп/2001 // Офіційний вісник України. – 2001. – № 24. – Ст. 1076
- Бабаев В.К. Презумпции в советском праве / В.К. Бабаев. – Горький. – 1974. – 428 с.
- Господарський процесуальний кодекс України від 6 листопада 1991 року № 1798 / Законодавство України. – Електронний ресурс. – Режим доступу: <http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi?page=1&nreg=1798-12>
- Гетьманцев Д. Презумпція вини платника податків / Д. Гетьманцев. – Дзеркало тижня № 1. – 15-20 січня 2010 р. – С. 2, 7
- «Про відповідальність юридичних осіб за вчинення корупційних правопорушень». – Закон України. – Електронний ресурс. – Режим доступу: <http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=1507-17>
- Мейер Д. О юридических вымыслах и предположениях, о скрытых и притворных действиях / О. Мейер. – Казань. – 1854 г. – 427 с.
- Кузнецова О.А. Презумпции в гражданском праве. – 2-е изд., испр. и доп. / О.А. Кузнецова. – СПб.: Издательство „Юридический центр Пресс», 2004. – 347 с.
- Гуляев А.К. Социально-политический аспект презумпции невиновности / А.К. Гуляев // Советское государство и право. – 1988. – № 4. – с. 29-36
- Venegas S.A. Presunciones y ficciones en el impuesto sobre la renta de las personas físicas en Мiхico / S.A. Venegas. — Мiхico:Universidad nacional autfноma de Mexico, 2007. — 492 p.
- Movellbn S.A. La prueba por presunciones. Particular referencia a su aplicaciфn judicial en supuestos de responsabilidad / Sanchez de Movellbn, pedro Alvarez. — Granada, 2007. — 224 p.
- Сериков Ю.А. Процессуальные функции правовых презумпций в гражданском судопроизводстве: дис. ... канд. юрид. наук: 12.00.15 / Юрий Алексеевич Сериков — Екатеринбург, 2005. — 227 с.

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ORIGINAL SCIENTIFIC ARTICLE
Received: October 17, 2014
Accepted: December 01, 2014

COMPETITIVELY LEADING AND LAGGING EUROPEAN COUNTRIES⁴

Abstract

The concept of a country's competitiveness, in addition to numerous challenges, has risen in importance in recent years. Relying on the data obtained from the Global Competitiveness Report of the World Economic Forum, the paper analyses competitiveness of the most competitive countries and the least competitive countries in the EU. Visualisation of data on competitiveness and GDP per capita of the analysed group of countries in 2013 enabled the identification of the most critical factors of competitiveness of the EU countries. Furthermore, based on the evaluated competitiveness trend line for the observed groups of countries in the period 2006-2013, it has been concluded that it is not realistic to expect significant convergence of the analysed groups of countries in respect of competitiveness in the near future.

Key words: competitiveness, most competitive EU countries, least competitive EU countries

JEL classification: O310, O520

КОНКУРЕНТСКИ ВОДЕЋЕ И ЗАОСТАЈУЋЕ ЗЕМЉЕ ЕВРОПЕ

Апстракт

Концепт конкурентности земље, поред многобројних оспоравања, добија на значењу током последњих година. У раду је на основу података из Global Competitiveness Report, World Economic Forum sagledavana konkurentnost the EU most competitive countries and the EU last competitive countries. Визуелизацијом података о конкурентности и GDP per capita анализираних група земаља у 2013. години идентификовани су најкритичнији фактори конкурентности земаља ЕУ. Такође, на бази оцењених линија тренда конкурентности за посматране групе земаља у периоду 2006-2013. године дошло се до одговора да није реално очекивати знатније приближавања конкурентности између анализираних група земаља у непосредној будућности.

Кључне речи: конкурентност земље, конкурентски водеће земље ЕУ, најмање конкурентне земље ЕУ.

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⁴ The paper emerged within the project: 179074 "Tradition, modernisation, and national identity in Serbia and the Balkans in the process of European integrations", supported by the Ministry of Education, Science, and Technology of the Republic of Serbia.

Introduction

The research subject of competitively oriented economic reality is reflected in the intention of the researchers to focus on successful companies, branches, certain parts of countries, countries as a whole, groups of countries. Theoretical understanding of this phenomenon is inevitably associated with large reductions and simplification of the content. A small number of differences among the participants, leading to differences in the levels of competitiveness of countries, industries or companies, can be taken into account. The most frequently used differences in explaining the causes of competitiveness lie in different offer of factors of production, such as labour and physical capital, unequal availability of technologies, the use of effects of economies of scale, the appearance of externalities, etc. The real question in the analysis of competitiveness, regardless of the level of analysis, refers to the identification of factors that explain this phenomenon. In short, competitiveness is a very complex phenomenon, and a country's efforts to be competitive involve synergistic action of different factors that determine this complex.

Competitiveness is the ability of a country to produce goods and services that meet the increasingly stringent demands of the international market under free and equal market conditions, while maintaining and increasing the real income of the population on a long-term basis (OECD, 2001). A particular country may be considered competitive only if it has an important role in the production and marketing of goods or services on the world market, and if its inhabitants achieve higher living standard in the observed time interval. The country's competitiveness cannot be achieved without local companies that retain or increase their share on the global market. The country cannot be competitive without high-quality products, services, and successful companies, which requires the existence of a favourable business environment, institutions that regulate the market and infrastructure (Skufflić & Stoković, 2004).

Competitiveness is the area of economic knowledge which analyses facts and policies that shape the country's ability to establish and maintain a framework for creating greater value for companies and increasing prosperity of people (IMD, 2003). In accordance with the context of this definition, it should be noted that it is impossible to achieve a higher level of competitiveness of the country on the basis of the quality of one factor that determines the competitiveness. In fact, joint action of a number of factors is required. The only question is which of the many factors has stronger and which of them has weaker contribution to the creation of greater value for the companies and higher prosperity of people, i.e. in achieving greater competitiveness.

Starting from the above-mentioned facts, the aim of the research is to point to the differences in competitiveness performance, quantified by the indicator Global Competitiveness Index (GCI) of the World Economic Forum, among the most competitive EU countries and the least competitive EU countries, as well as to identify the most critical factors of competitiveness of the EU countries in 2013. In addition, an attempt will be made to use the evaluated trend lines of competitiveness of the observed group of countries in the time period 2006-2013, in order to reach answer to the question whether it is realistic to expect convergence of the analysed groups of countries in relation to the level of competitiveness in the foreseeable future.

In an attempt to get answers to the questions, we used the method of visualisation of data on the competitiveness and GDP per capita of the analysed groups of countries in 2013, as well as the time diagrams of the average global competitiveness index and the average gross domestic product per capita of the analysed groups of countries for the period 2006-2013.

The structure of the work has been adapted to the defined research subject and objectives. After the introduction, a brief overview of research on the phenomenon

of competitiveness is presented. Then, the empirical part focuses on: a) Global Competitiveness Index Framework, World Economic Forum, b) the levels of competitiveness of the most competitive EU countries and the least competitive EU countries in 2013, c) the elements of competitiveness of the most competitive EU countries and the least competitive EU countries in 2013 and d) the time diagrams of GCI and GDP per capita of the most competitive EU countries and the least competitive EU countries in the period 2006-2013.

Overview of literature

In theory, there are conflicting views on the relevance of the concept of competitiveness. Due to the number and complexity of factors, as well as the very nature of the competitive processes, the concept of competitiveness is often very difficult to understand and often confusing (Snieška & Bruneckienė, 2009). A number of economists believe that competitiveness has the traits of “natural law of modern capitalist economy” (Kitson et al., 2004). Another group, however, believes that it is reasonable to think exclusively about the concept of competitiveness at the level of companies, and that the category of a country’s competitiveness is absolutely wrong (Krugman, 1994). Anyway, despite numerous challenges, the concept of the country’s competitiveness has been continually receiving significance over the past ten years. Although some theorists believe that competitiveness is nothing else than the measurement of a country’s wealth in other way, it is very important that the high competitiveness, in turn, contributes to the improvement of innovativeness of the economy as a whole, and to acceleration of economic growth. However, if the competitiveness on the global market is weak, then the national economy suffers. This usually leads to protectionism, non-transparent government subsidies, and barriers to market entry.

The country’s competitiveness is most commonly identified with the ability to produce and market goods and services on the foreign markets (OECD, 1996), and it is expressed by the dynamics of growth of real gross domestic product per capita, or the capacity to increase wealth. World Economic Forum defines competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity determines the level of prosperity that the country can reach and maintain over a long period of time (Schwab, 2009).

The competitiveness of a country is a measure of production of goods and services, which, under free and fair market conditions, meets international market criteria and at the same time affects the increase in real income of people. This competitiveness is based on high-quality production performance and economic ability of companies to produce outputs with the highest possible productivity, which, in turn, generates a high level of real income. Competitiveness is closely related to the rise in living standards, greater employment opportunities, as well as the country’s ability to fulfil its international obligations (The Report of the President’s Commission on Competitiveness, 1984).

Analysis of factors affecting competitiveness of the country is becoming a increasingly pronounced component of policies aimed at improving the quality of key macroeconomic performance (economic growth, employment, price stability, balanced balance of payments). While it is clear that the country’s competitiveness is essentially linked to the quality of its economic performance, the fact is that this complex is more and more observed in relation to the relative position of the observed economy in comparison to other countries, and far less in relation to its accumulated wealth (Nijkamp & Siedschlag, 2011). Improving competitiveness must be the basic idea in the development and implementation of economic policy. Only well-targeted policies,

aimed at improving national competitiveness, can ensure the desired development and overall social welfare.

The shaping of indicators of competitiveness of the country is affected by a very large number of direct and indirect factors, among which the competitiveness of companies is the most important, as companies stand for holders of economic activity and creation of economic values. Factors affecting the competitiveness of the company are: high costs of operations, high taxes, poor overall competition that does not encourage companies to improve innovativeness, poorly regulated system of environmental protection and waste management, quality or low quality of transport infrastructure, non-harmonised legislation, poor public administration, and so on.

The biggest obstacles to competitiveness are caused by national or local authorities, not the companies. Obstacles can come from businesses too, but the state may intervene and remove them. When talking about classical obstacles, which adversely affect the competitiveness, they can be: horizontal restraints, vertical restraints, and abuse of state domination. Horizontal restraints are reflected in the fixing of purchase and selling prices, the division of market of resources and goods, limited or controlled research and development, production and marketing. Vertical restraints can be in the form of long-term exclusive (monopoly) contracts. The country's competitiveness in particular can be affected by short-term national interests, ex ante price control, legalised monopoly, competition between the institutions themselves, non-transparent state aid policy, and excessive, unjustified market protection.

Empirical Analysis

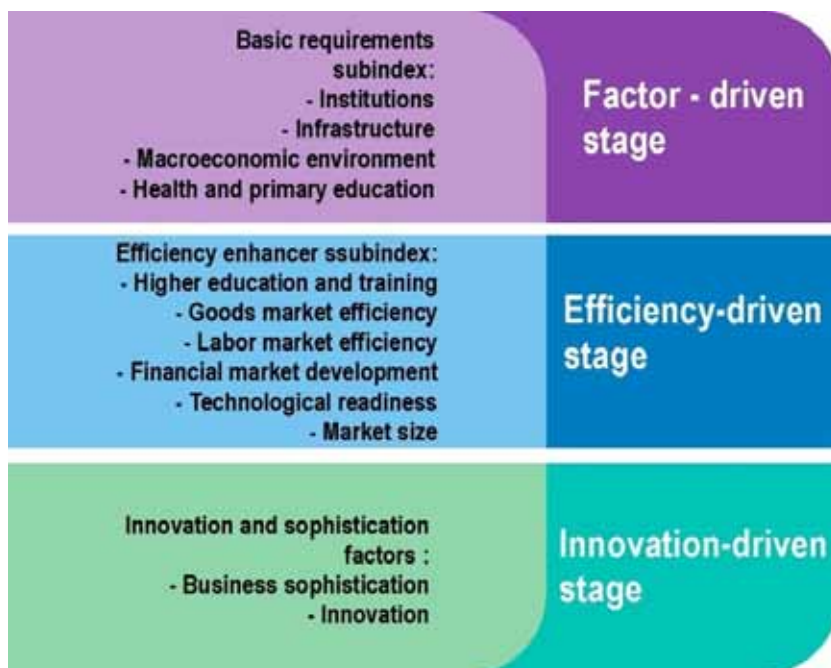
a) Global Competitiveness Index Framework, World Economic Forum

The Report groups the factors of competitiveness into 12 pillars (Figure 1). Global Competitiveness Index (GCI) is calculated as a weighted average of the values of all pillars of competitiveness, depending on the level of development of the observed country (Figure 2).



Modified according to: The Global Competitiveness Report 2013-2014.

Figure 2: Three stages of economic development



Modified according to: The Global Competitiveness Report 2013-2014.

Figure 2 shows that GCI consists of a set of 12 factors of competitiveness, which are grouped into three subgroups, and which are typical for one of the three stages of development: factor-driven, efficiency-driven, and innovation-driven stage.

Based on the data from the Global Competitiveness Report 2013-2014, 15 most competitive EU countries and 15 least competitive EU countries have been singled out (Table 1 and Table 2).

Table 1: European GCI leaders in 2013

Country/Economy	Global Competitiveness Index		GDP per capita (US\$)	
	Rank (out of 148)	Score 1-7	Rank (out of 148)	Score
Switzerland	1	5.67	4	79,033
Finland	3	5.54	15	46,098
Germany	4	5.51	21	41,513
Sweden	6	5.48	8	55,158
Netherlands	8	5.42	14	46,142
Denmark	10	5.37	23	38,589
Norway	11	5.33	3	99,462

United Kingdom	15	5.18	7	56,202
Austria	16	5.15	12	47,083
Belgium	17	5.13	18	43,686
Luxembourg	22	5.09	1	107,206
France	23	5.05	22	41,141
Ireland	28	4.92	16	45,888
Iceland	31	4.66	19	41,739
Portugal	51	4.4	39	20,179

Source: Global Competitiveness Report 2013-2014.

Table 2: European GCI learners in 2013.

Country/Economy	Global Competitiveness Index		GDP per capita (US\$)	
	Rank (out of 148)	Score 1-7	Rank (out of 148)	Score
Poland	42	4.46	54	12,538
Turkey	44	4.45	60	10,609
Latvia	52	4.40	49	13,900
Bulgaria	57	4.31	74	7,033
Cyprus	58	4.30	30	26,389
Russian Federation	64	4.25	47	14,247
Montenegro	67	4.20	75	6,882
Macedonia, FYR	73	4.14	87	4,683
Croatia	75	4.13	50	12,972
Romania	76	4.13	69	7,935
Slovak Republic	78	4.10	42	16,899
Ukraine	84	4.05	92	3,877
Bosnia and Herzegovina	87	4.02	88	4,461
Greece	91	3.93	36	22,055
Serbia	101	3.77	85	4,943

Source: Global Competitiveness Report 2013-2014.

In the next step, the number of selected countries has been reduced to 10 leading and 10 lagging countries in respect of competitiveness (Figure 3). After the decision to perform 10+10 analysis, the last five countries (Luxembourg, France, Ireland, Iceland, and Portugal) have been removed from the group of 15 leading countries. The ten most competitive countries in Europe are in the third phase of development (*innovation-driven stage*). From the list of 15 lagging countries Europe, based on the criterion of competitiveness, Russian Federation, Ukraine, and Turkey, as large economies, have not

been taken into account, nor the very small economies, Montenegro and Cyprus. Six countries from the list of the least competitive countries are in *efficiency-driven stage*. Croatia, Slovakia, and Poland are in *transition from stage 2 to stage 3*, while Greece is in *innovation-driven stage of development*.

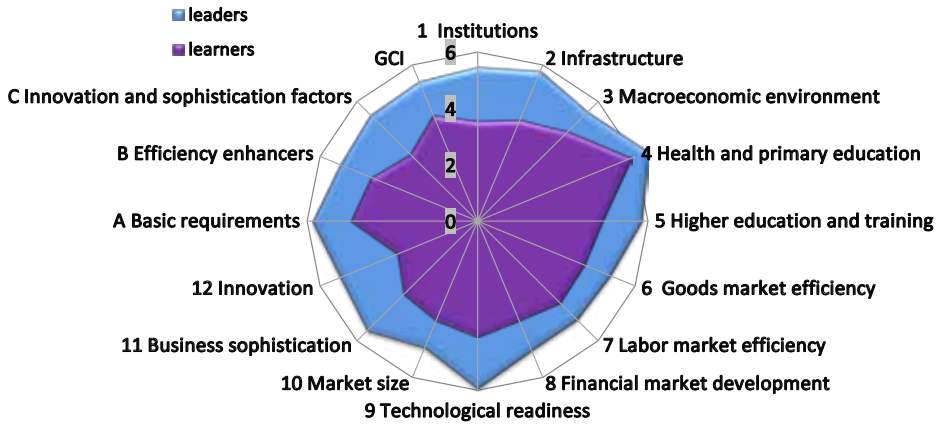
Figure 3: Observed groups of countries



- b) Comparative presentation of the most competitive EU countries and the least competitive EU countries in 2013

Comparative overview of competitiveness, based on all pillars, for the observed groups of countries shows that GCI learners are lagging behind GCI leaders mostly in respect of the *12th pillar, Innovation*, and the *1st column, Institutions* (Figure 4). Given that the category Institutions includes assessment of political stability and the rule of law, then these differences are expected. Political instability with many open internal issues is the characteristics of this region. In addition, the region is characterised by underdevelopment of basic institutions and inefficiency of the legal system, particularly in the area of intellectual property protection. The observed characteristics have been identified as the average of the results of the groups of most competitive and least competitive European countries.

Figure 4: Comparison by elements of competitiveness in 2013.



The differences that exist between the most competitive EU countries and the least competitive EU countries are obvious. However, the above-mentioned graphical display provides only partial information on the competitiveness of the observed groups of countries for 2013. It is obvious that the gap in terms of the values of the GCI pillars between the most competitive EU countries and the least competitive EU countries is very high. Therefore, a more thorough analysis is required.

c) Time diagrams of GCI and GDP per capita

Further course of the research has included the time dimension and analysed the trend of competitiveness and GDP per capita of the observed groups of countries (data available for a time period of eight years). Time series diagrams by the indicators for GCI and GDP per capita have been constructed, with average values by observed groups of countries, showing also trend lines for each of the groups (Figures 5 and 6).

Figure 5: Time diagram of the average GCI for the observed groups of countries

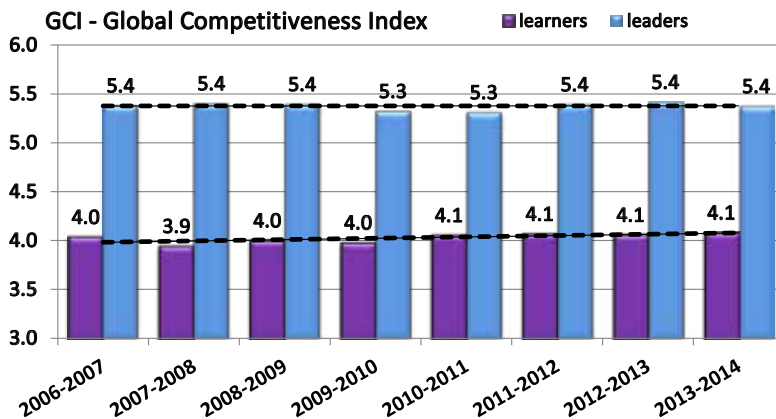


Figure 6: Trends in average GDP per capita

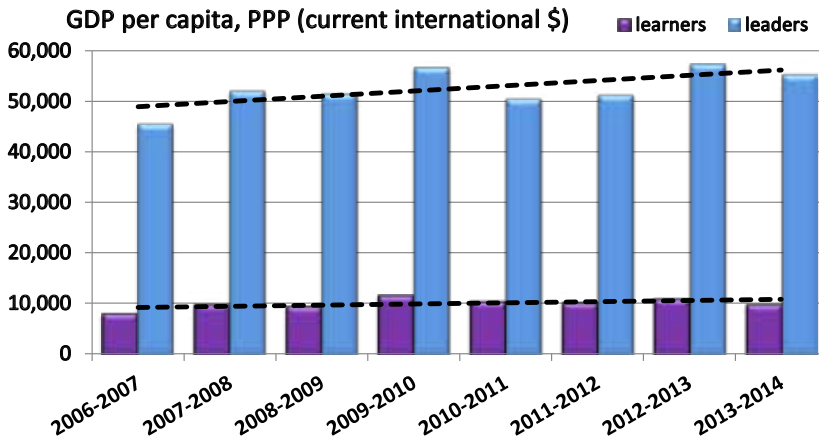


Figure 6 shows that GDP per capita is in the case of *the most competitive EU countries* at a much higher level in relation to the group of GCI learners. In addition, the movement of GDP per capita in the group of most competitive countries by years shows a growing tendency. The tendency of growth of GDP per capita is characteristic of *the least competitive EU countries*, but obviously it is a much slower growth than in the first case. If similar tendencies continue in the future, convergence of GDP per capita of the analysed groups of countries should not be expected.

Although economically less developed countries can continue to improve their competitiveness by adopting technologies, for countries that have reached the innovation stage of development it is no longer sufficient for further productivity growth. Companies in these countries need to create and continuously improve products and processes, in order to maintain their competitiveness and achieve economic progress with the help of value-added activities. This requires the existence of an environment that is conducive to innovative activities, and which supports both the private and the public sector. That means plenty of investment in research and development, especially on the part of the private sector, the availability of high-quality scientific research institutions that possess the knowledge necessary to create and diffuse innovation, broad cooperation in research and technological development between universities and industry, as well as an efficient system of protection of intellectual property rights.

Conclusion

The gap in terms of competitiveness performance (based on all GCI pillars) between the most competitive EU countries and the least competitive EU countries is very high. In addition, it has been shown that innovation and institutions are the most critical factors of competitiveness of the EU countries.

Based on the evaluated trend line of competitiveness of two groups of countries, tendency towards mild convergence has been observed. Despite the fact that there is a tendency of growth within the cluster of the most competitive EU countries and the least competitive EU countries, known as GCI learners, significant convergence in respect of competitiveness between the analysed groups of countries should not be expected.

References

- IMD World Competitiveness Yearbook 2003, Lausanne, Switzerland.
- Kitson, M., Martin, R., & Tyler, P. (2004). Regional Competitiveness: An Elusive yet Key Concept?, *Regional Studies*, 38(9), 991–999.
- Krugman, P. (1994) Competitiveness: A Dangerous Obsession, *Foreign Affairs*, Vol 73, Nr 2, March/April , pp. 28-44.
- Nijkamp, P. Siedschlag, I. (2011), *Innovation, Growth and Competitiveness, Dynamic Regions in the Knowledge-Based World Economy*, Springer Heidelberg Dordrecht , London , New York.
- OECD (1996) *Technology an Industrial Performance*, Paris, OECD.
- OECD (2001). OECD Manual: Measuring Productivity. Measurement of aggregate and industry - level productivity growth. <http://www.oecd.org/dataoecd/59/29/2352458.pdf>
- Schwab K. (2009) The Global Competitiveness Report 2009-2010, World Economic Forum, Geneva.
- Snieška, V. Bruneckienė, J. (2009) Measurement of Lithuanian regions by regional competitiveness index. *Engineering economics*, 1(61).
- The Global Competitiveness Report 2006-2007; 2007-2008; 2008-2009; 2009-2010; 2010-2011; 2011-2012; 2012-2013, 2013-2014, World Economic Forum.
- Škuflić, L. Štoković, I. (2004) How to measure and improve external and internal competitiveness: Theoretical and empirical assessment, *Revija za pravo i ekonomiju*, Mostar, Vol 5. br. 1.

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ORIGINAL SCIENTIFIC ARTICLE
Received: September 15, 2014
Accepted: November 02, 2014

YOUTH UNEMPLOYMENT AND ENTREPRENEURSHIP

Abstract

The paper deals with the problem of youth unemployment and entrepreneurship as a way out of unemployment. The battle against youth unemployment is a top European priority, since the youth unemployment rate is more than twice as high as the adult one, because the chances for a young unemployed person of finding a job are low, because their jobs tend to be less stable, because there are significant skills mismatches on the labor market. Entrepreneurship is a powerful driver of economic growth and job creation; it makes economies more competitive and innovative. The motivation for entrepreneurial career is different with different age cohorts. Youth represent a group with the highest entrepreneurial potential. In the empirical study, we analyze entrepreneurial tendencies among Slovene students of business schools and with factor analysis approach we try to define underlying entrepreneurial tendency dimensions as the literature suggests that entrepreneurial characteristics play an important role in influencing the individual's decision to become entrepreneurs. We defined four such entrepreneurial tendency dimensions: need for independence and achievement, problem solving, planning, and dealing with uncertain situations. However, the need for independence and achievement and problem solving are the strongest drivers of entrepreneurial tendency. The results of the study can be of help to policymakers when updating labor market policy measures in connection with the educational policy.

Key words: youth unemployment, entrepreneurship, competitiveness, self-employment, entrepreneurial characteristics.

JEL Classification: J21, J23, C38, L26

НЕЗАПОСЛЕНОСТ МЛАДИХ И ПРЕДУЗЕТНИШТВО

Апстракт

Рад се бави проблемом незапослености младих и предузетништвом као излазом из незапослености. Борба против незапослености младих се налази у врху европских приоритета, јер је стопа незапослености младих више него двоструко већа у односу на стопу незапослености одраслих, будући да су шансе за младе незапослене особе да нађу посао ниске. Послови младих су мање стабилни, јер постоји значајна неусклађеност вештина на тржишту рада. Предузетништво је моћан покретач економског раста и отварања нових радних места, чини привреду конкурентнијим и иновативним. Мотивација за предузетничку каријеру се разликује у различитим старосним групама. Омладина представља групу са највећим предузетничким потенцијалом. У емпиријском истраживању анализирамо предузетничке склоности

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словеначких студената пословних школа и приступом факторске анализе покушавамо да дефинишемо димензије предузетничких склоности, с обзиром да литература сугерише да предузетничке карактеристике играју важну улогу у доношењу одлука појединаца да постану предузетници. Дефинисали смо четири предузетничке карактеристике: потреба за независношћу и достигнућа, решавање проблема, планирање и сналажење у неизвесним ситуацијама. Међутим, потреба за независношћу и достигнућа и решавања проблема су најјачи покретачи предузетничке склоности. Резултати студије могу бити од помоћи креаторима политике приликом иновирања мера политике тржишта рада у вези са образовном политиком.

Кључне речи: *незапосленост младих, предузетништво, конкурентност, самозапошљавање, предузетничке карактеристике.*

Introduction

Since 2008 the EU has suffered the effects of the most severe economic crisis: for the first time in Europe there are over 23 million unemployed and in the majority of Member States small and medium sized enterprises have not yet been able to bounce back to their pre-crisis levels. The Europe 2020 strategy responded to this by setting out the foundations for future growth and competitiveness that will be smart, sustainable and inclusive, and which will address principal societal challenges. One of the greatest challenges is how to fight against the rising unemployment rates – especially youth unemployment. Youth unemployment is usually more sensitive to fluctuations in the business cycle compared to the unemployment of older people. According to data by Eurostat, the unemployment rate for people under the age of 25 is 23% (EU28). With regard to the data, and considering the European Union weakened by the economic crisis, the top priority of the European Union is a battle against the unemployment of young people under the age of 25. Why is this important issue to be addressed? Because the youth unemployment rate is more than twice as high as the adult one, because the chances for a young unemployed person of finding a job are low, because their jobs tend to be less stable, because there are significant skills mismatches on the labor market.

In tackling youth unemployment an important role is played by entrepreneurship, which is also seen as one of the aspects of improving the competitiveness of the European economies. Entrepreneurship is a powerful driver of economic growth and job creation: it creates new companies and jobs, opens up new markets and nurtures new skills and capabilities. Entrepreneurship makes economies more competitive and innovative and is crucial in achieving the objectives of several European sectorial policies. Commercializing new ideas, improve productivity and creates wealth. Without the jobs from new firms, average net employment growth would be negative. New companies, especially small and medium sized enterprises represent the most important source of new employment. Given the significant number of young unemployed people, the entrepreneurship as a route out of unemployment should be promoted. Investing in entrepreneurship education/training/courses is one of the highest return investments Europe can make to support growth and business creation. Whether or not they go on to found businesses or social enterprises, young people who benefit from entrepreneurial learning, develop business knowledge and essential skills and attitudes, including creativity, initiative, tenacity, co-working, teamwork, understanding of risk and a sense of responsibility.

This is the entrepreneurial mindset that helps entrepreneurs transform ideas into action and also significantly increases employability. In addition, entrepreneurial learning should be based on practical experiential learning approaches and experience of real-world entrepreneurs, whether on local, regional, national or multinational level. Higher education institutions should not just deliver knowledge, but should be an active player in real-world partnerships that enables to address the entrepreneurship skills of various sectors and therefore contribute to overcome the mismatches between labor supply and labor demand.

Starting up own business is not an easy thing to do, especially not for young person, who is facing lack of work experience, lack of skills and lack of financial resources when entering the labor market for the first time. The European Union supports different actions which aim to ease the transition from school to labor market and to promote entrepreneurship. In this paper, we focus especially on labor market policy interventions which are generally targeted at providing assistance to the unemployed and other groups of people who face particular difficulties to enter the labor market. Within this intervention there are few business development support schemes which are targeted to unemployed youth specifically. Youth unemployed is a specific group in the labor market and as such it is a group with the greatest entrepreneurial potential and should rely on close cooperation between employment services, business support and finance providers. The aim is to help youth unemployed make an effective transition into self-employment, increase the sustainability of their businesses and to provide support in a way of providing additional resources. Because different types of labor market policy interventions work different to different target groups, there is also an open question about the effectiveness of such interventions and contribution towards improving the competitiveness of the national economies.

In order to establish business environment that will be supportive towards new business ideas and will promote the development of entrepreneurship, there are several entrepreneurial determinants (OECD, 2013) that has to be fulfilled: regulatory framework, market conditions, access to finance, creation and diffusion of knowledge, entrepreneurial capabilities, and entrepreneurship culture. According to OECD (2014) the overall barriers to entrepreneurship have significantly been reduced over the last ten years across OECD countries. In countries where there are low burdens of starting up a new business, there are higher percentages of opportunity entrepreneurs. Despite the barriers that young people are facing when starting a business and they are facing these barriers with different intensity than their adult counterparts, there are some types of business models that young people usually use (EC, 2012): the most common is a self-employment model which is also promoted via labor market policy interventions, part time self-employment, interesting among young people is also cooperatives model. An obstacle preventing from turning ideas into projects is also connected with the possessing “right” characteristics to become an entrepreneur, which in turn also reflects a tendency towards entrepreneurship (see for example Zian et al., 2010; Fini et al., 2009). In the empirical part of the paper we will analyze the tendency towards entrepreneurship among young people. On top of that, we will try to identify the underlying dimensions (factors) of entrepreneurial characteristics. With further statistical analysis, we will try to define which of identified dimensions have the highest predictive power in explaining the decision of starting a business.

The paper is structured as follows: after a brief introduction, we present a short statistical overview of youth unemployment and motivation for self-employment. We continue with the promotion of entrepreneurship through labor market policy interventions and continue with entrepreneurship and entrepreneurial characteristics. This is followed by empirical application and at the end we conclude.

Youth unemployment and motivation for self-employment

In May 2014, 5.187 million young persons (under 25) were unemployed in the EU28, of whom 3.356 million were in the euro area. Compared with May 2013, youth unemployment decreased by 464 000 in the EU28 and by 205 000 in the euro area. In May 2014, the youth unemployment rate was 22.2% in the EU28 and 23.3% in the euro area, compared with 23.6% and 23.9% respectively in May 2013. On May 2014, the lowest rates were observed in Germany (7.8%), Austria (8.9%) and the Netherlands (10.8%), and the highest in Greece (57.7% in March 2014), Spain (54.0%) and Croatia (48.7% in the first quarter of 2014) (Eurostat, 2014).

In meeting the challenge of youth unemployment entrepreneurship can play an important role. Despite the fact that they are facing lack of work experience, lack of skills and lack of financial resources when entering labor market for the first time, young represent an important group with the the greatest entrepreneurial potential. According to the Eurobarometer survey (EC, 2010) 52,4% of young aged 15-24 would choose to be self-employed compared to 43,7% who would choose to be employed rather than self-employed. The percentage of the age cohort of 40-54 is somehow quite the opposite: 50,4% would choose to be employed, whereas 45,5% would choose to be self-employed. The highest scored reason of preferring to be an employee rather than self-employed is because of the regular, fixed income (versus irregular, variable income): 33% of the age cohort of 15-24 and 45% of the age cohort of 40-54. The second reason is stability of employment: 31,9% for the age cohort of 15-24 and 35,8% for the age cohort of 40-54. On the other hand, 66,1% of young aged 15-24 would prefer to be self-employed rather than an employee because of personal independence/self-fulfillment/interesting tasks, the second ranked reason is freedom to choose the place and time of working (34,4%), whereas the third ranked reason is better income prospects (22,8%). The results of the survey suggest that younger cohorts in the population may offer the most potential for entrepreneurship. On top of that, the age cohort 15-24 agreed most strongly that entrepreneurs are job creators. Wang et al. (2012) in their study examine the effects of multiple individual and environmental factors on self-employment motivation in China, Mexico and the USA. The individual factors may include, for example, autonomy, proactiveness, locus of control, innovativeness, risk taking. The set of environmental factors consist of such institutional and social components as legal and government support for small businesses, informal institutions, social norms for self-employment, social networks. Results of the Wang et al. (2012) study indicate that the USA has the individual and environmental factors most favorable to self-employment; Mexico has the highest level of motivation for self-employment; independence and risk taking are the best predictors of motivation for self-employment in all three countries; the predictive capability of independence, risk taking and social networks appears similar for China and the USA; and the predictive capability of informal institutions, government support and legal support appears similar for China and Mexico. The study of Wang et al. (2012) suggests that the cultural dimensions (for example, individualism versus collectivism) have to be taken into account when explaining the motivation for self-employment. Cultural research suggests that social behaviors of collectivism are more likely to be driven by social norms, duties, obligations than individualists, while the social behavior of individualists is more likely to be driven by personal beliefs, values and attitudes. It is also very important whether the social and institutional environment favours self-employment. If environment exerts fewer constraints over individuals, then it is expected that business behaviors are more likely to be determined by personal traits rather than by environmental factors (Hofstede, 2001; House et al., 2004). This suggests the importance

of cultural dimensions also for the European countries when explaining motivation for self-employment.

What is more, economic policy can be of help in stimulating entrepreneurship activity with simplifying administrative procedures and regulations, especially regarding business start-up and registration. Not only this, but also other policy measures have been developed through Small Business Act (EC, 2008) which are directed to stimulate entrepreneurship and help entrepreneurs overcome the barriers they face. We shortly discuss the aims of policy measures specifically directed at youth (EC, 2008):

Develop entrepreneurship skills: entrepreneurship skills programs aim to tackle the barrier of lack of entrepreneurial knowledge, skills and attitudes and lack of prior work and entrepreneurship experience. Young people gain skills and competencies such as opportunity recognition, business planning, running a business and also soft skills such as sense of initiative, creativity, autonomy, and teamwork. These skills and competencies should help young people become more aware of self-employment as a career option.

Provide information, advice, coaching and mentoring: supporting business during and after start-up with so called soft support is important because it complements what students have learned about entrepreneurship in school and helps fill the gaps unaddressed by the school system.

Provide financial support: while the most significant barrier to business startups and especially severe for youth is the lack of initial capital and difficulties in obtaining finance from private lenders, the important policy measure is to provide financial support which is seen in various finance programmes.

Develop infrastructure for entrepreneurship: this policy measure helps develop networks, skills, business incubators. It is important because it provides mutual learning opportunities, business contacts.

Promotion of entrepreneurship through labor market policy interventions

Since the youth unemployment rate in the EU is more than twice as high as the adult one (23% compared to 9%, respectively), one of the top priorities in the EU is to fight against the raising youth unemployment rate. The EU is working to reduce youth unemployment and to increase youth employment rate in line with the wider EU2020 strategy, target of achieving 75% employment rate for the working age population (20-64 years). According to the EU2020 strategy, there is also a clear goal to support entrepreneurship in Europe in order to reach competitive Europe and growth that will be smart, sustainable and inclusive. One of the way Europe has set up to reach that goal is labor market policy interventions that we will discuss in the paper. Labor market policy interventions are generally targeted at providing assistance to the unemployed and other groups of people who face particular difficulties to enter the labor market. In most EU member states the primary target group is people who are registered as unemployed by national public employment services or who are currently employed but at risk of involuntary job loss due to difficult economic circumstances for their employer – a situation that is particularly relevant during the current inconsistent recovery from the financial and economic crisis (Eurostat 2013). According to Eurostat (2013) labor market policy interventions are classified into three main types:

- Labor market policy services refer to labor market interventions where the main activity of participants is job-search related and where participation does not usually result in a change in labor market status.

- Labor market policy measures refer to labor market interventions where the main activity of participants is not job-search related and where participation usually results in a change of labor market status. In other words, a person who is unemployed typically ceases to be considered as such when participating in an LMP measure because they are temporarily in training or work and therefore not both actively seeking and immediately available for work. According to the type of action, labor market policy measures can be further broken down into training, job rotation and job sharing, employment incentives, supported employment and rehabilitation, direct job creation and start-up incentives.
- Labor market policy supports refer to interventions that provide financial assistance, directly or indirectly, to individuals for labor market reasons, or which compensate individuals for disadvantage caused by labor market circumstances. According to the type of action, labor market policy supports can be further broken down into out of work income maintenance and support and early retirement.

Decomposition of labor market policy expenditures is consistent with three main types of intervention: services, measures (active interventions) and supports (passive interventions). The vast majority (63.2 %) of expenditure on labor market policy interventions in 2010 across the EU financed labor market policy supports, while just over a quarter (25.6 %) was devoted to labor market policy measures and the remaining one ninth (11.3 %) was spent on labor market policy services. The question regarding labor market policy expenditures is dealing with the effective use of such resources. In the literature we can find numerous studies which try to estimate the effectiveness of labor market policy, mostly active labor market policies (active interventions).

Across the EU-27, an average of 2.2 % of gross domestic product was spent on labor market policy interventions in 2010. The relative weight of labor market policy expenditure in GDP rose between 2008 and 2009 in response to the increased number of unemployed persons across the EU-27. This increase in spending could be largely attributed to the effects of the financial and economic crisis on European labor markets and a rise in the level of expenditure for unemployment benefits. Between 2009 and 2010 the increased level of labor market policy expenditure was maintained, but not extended, despite the number of unemployed persons increasing by a further 7.7% between 2009 and 2010 (Eurostat 2013). Within the EU member states, the highest relative level of expenditure on labor market policy interventions in 2010 was reported in Ireland and Spain (both 3.9 % of GDP), followed by Belgium and Denmark – the only other EU member states spend more than 3.0 % of their GDP on such interventions. At the other end of the scale, nine member states spent less than 1 % of GDP on these interventions: Slovakia, Greece, Cyprus, Lithuania, the Czech Republic, the United Kingdom, Romania, Bulgaria and Malta (see figure 1).

Figure 1: Total labor market policy expenditures as a percentage of GDP Source of data: Eurostat

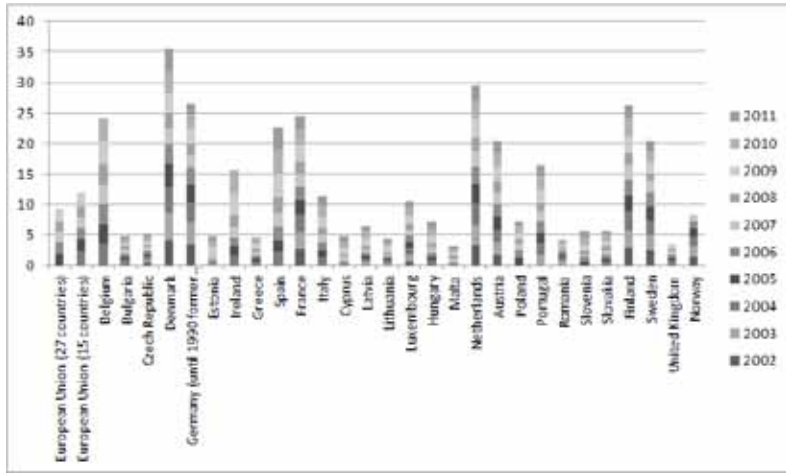
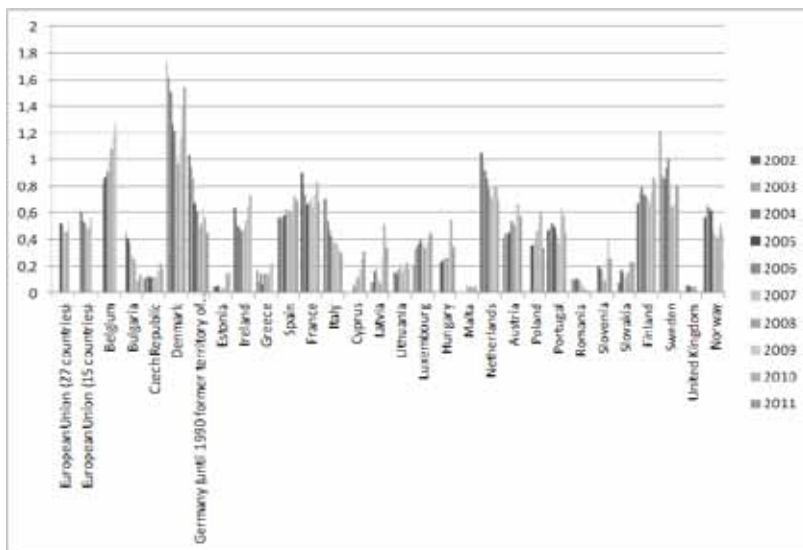


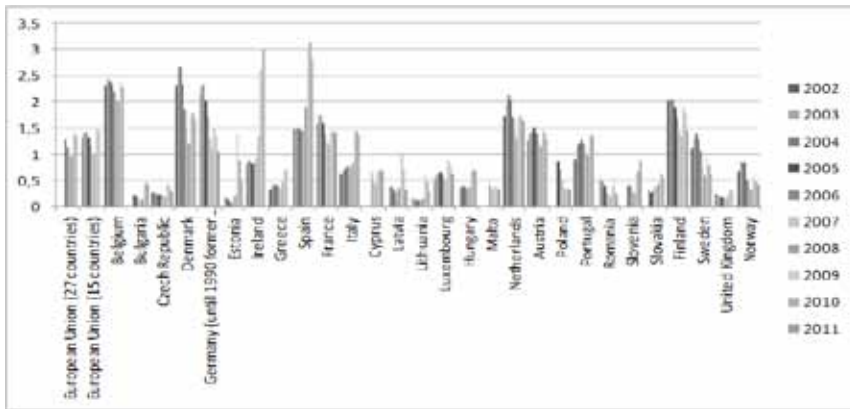
Figure 2: Total labor market policy expenditures for measures as a percentage of GDP



Source of data: Eurostat

Relative to GDP, Spain spent the most on labor market policy supports (3.1 %) with Belgium and Ireland the only other countries to spend more than 2 %. Denmark and Belgium had the highest relative expenditure on labor market policy measures (1.4% and 1.3 % of GDP respectively), while Sweden (0.5 % of GDP), the Netherlands, Denmark and Germany (all 0.4 % of GDP) reported the highest relative expenditure on labor market policy services see figure 2 and 3).

Figure 3: Total labor market policy expenditures for supports as a percentage of GDP

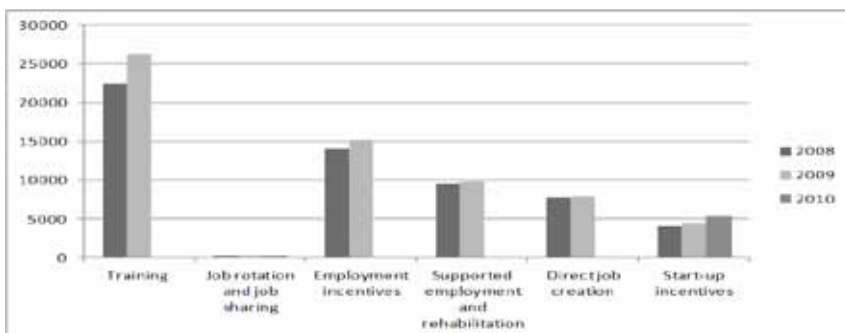


Source of data: Eurostat

The vast majority (62.9 %) of expenditure on labor market policy interventions in 2010 across the EU financed labor market policy supports, while just over a quarter (25.7 %) of the total expenditure on labor market policy interventions was devoted to labor market policy measures and the remaining one ninth (11.4%) was spent on labor market policy services. The level of expenditure and the breakdown of both expenditure and participants between the different types of labor market policy intervention varied considerably between EU member states, reflecting the diverse characteristics and problems within national labor markets, as well as the different policies of respective governments (Eurostat 2013).

Labor market policy measures mostly support the transition from unemployment or inactivity into employment, either by improving employability through training or work experience; by providing incentives for employers to take on people from selected target groups; or by encouraging individuals to become self-employed. The largest part of this expenditure went on a training (39.1 %), just over a quarter (25.1 %) on employment incentives, while 14.2 % was accounted for by supporting employment and rehabilitation (measures that promote the labor market integration of people with reduced working capacity) and 13.4 % by direct job creation (which covers the provision of temporary jobs that are additional to normal market supply) (see figure 4).

Figure 4: Labor market policy expenditures for measures (in million EUR)



Source of data: Eurostat

Entrepreneurship and entrepreneurial characteristics

Entrepreneurship plays important role in achieving economic development. It will require identification of individuals in all spheres of life with entrepreneurial characteristics and with the intention of starting a business either immediately or in the future (Izedonmi and Okafor, 2008). The results of some recent studies show that entrepreneurial characteristics play an important role in influencing the individual's decision to become entrepreneurs (see for example Zian et al., 2010; Fini et al., 2009; Ferreira et al., 2012). Different studies (see for example Burgelman, 1983; Kanter, 2004, Kuratko et al., 2004, 2005; Mitchelmore and Rowley, 2010; Man et al., 2008; Welter and Smallbone, 2011; Zampetakis and Moustakis, 2007; Lau et al., 2012; Hannu, 2000) have identified different above mentioned characteristics, such as:

Innovativeness: developing new or improved products or services; may involve radical or discontinuous change, improvement and redevelopment of existing products or processes, or the introduction of novel products or production methods based on new technology.

Risk taking: measuring and taking risks for the sake of profits; to take bold actions such as venturing units unknown new market or committing a large portion of resources to ventures with uncertain outcomes; preference is for moderately higher risks rather than extremely high risks.

Networking: developing personal relationships in which others willingly defer to one's wishes; networks include all internal and external, as well as formal and informal relationships that share information, experiences and resources and/or provide social-emotional support; networks represent a sources of power that facilitates the acquisition of physical and monetary resources and advice, information and reassurance.

Integration: being involved in all aspects of the organization; requires seeing things in a broader perspective, analyzing things in the abstract and putting seemingly unrelated elements together in a meaningful way; may involve creating a new order by selecting and fitting unrelated potential parts into a new pattern.

Opportunism: recognizing and exploiting opportunities to develop new products and processes, improve existing operations, and/or develop new marketing approaches; may discover mundane opportunities that enhance efficiency and quality; evaluation of opportunities involves balancing inadequate commitment of resources and the potential for return.

Non-system bound orientation: being unconstrained by rules, regulations and structures of existing organizational systems; to be able to take advantage of opportunities; may require manipulating of bypassing the system; such freedom must be justified from the perspective of organizational benefit.

Change orientation: responding to environmental changes in a proactive or reactive manner; proactive approach involves taking the initiative to shape the environment to one's own advantage, reactive approach involves responding to changes rather than exploiting and initiating change.

Flexibility in control: having the ability to adopt flexible planning systems and take varying degrees of control as appropriate to take advantage of emerging opportunities; facilitates changing strategic plans in response to highly complex and ever-changing environmental threats and opportunities.

Informality: preferring simple systems and informal structures; characterized in terms of being autonomous, resistant towards conformity and having a low need for support; allows for free crossing of organizational boundaries to promote a more open, cooperative atmosphere that is conducive to flexible decision-making processes, open communication and simplified work processes.

Result orientation: focusing on results; making decisions and solving problems intuitively to foster commitment to action; may become so immersed in work details that they are involved everywhere; ignoring corporate politics and individual egos, and violating bureaucratic procedures; similar to intense competitiveness, time urgency, preference of immediate action over planning.

Empirical application

In the empirical part of the paper we will analyze the tendency towards entrepreneurship among young people. On top of that, we will try to identify the underlying dimensions (factors) of entrepreneurial characteristics. With further statistical analysis, we will try to define which of identified dimensions have the highest predictive power in explaining the decision of starting a business.

We adopted a quantitative approach in terms of data collection and the method used was based on a survey. A survey was distributed to Slovene students of business schools. The main part of the survey consisted of 30 attributes of individuals' tendency towards entrepreneurship, which measured respondents' importance of each attribute on a five-point Likert scale. Respondents' tendency towards entrepreneurship was categorized as a dummy variable where one indicates a positive tendency towards entrepreneurial career and zero negative tendencies towards an entrepreneurial career. Among valid surveys, there were 33,3% of males and 66,7% of females. 50% of respondents were under the age of 23, whereas the average age of a respondent was 26. More than a half of the respondents had a higher education degree. The majority of respondents would choose an entrepreneurial career (88,9%) if there would be no other employment option, whereas only 11,1% of respondents would not decide for entrepreneurial career and would probably apply for the status of the unemployed person at the Employment Office. Further on we tested the hypothesis that the decision for an entrepreneurial career in case of no other employment options correlates with the entrepreneurial activity in the respondents' family. The significance level was 0,772 showing that based on a sample data there is no correlation between the decision for entrepreneurial career and entrepreneurial activity in the respondents' family.

We first used factor analysis to identify the underlying dimensions (factors) of the 30 attributes of individuals' tendency towards entrepreneurship. The main objectives of using factor analysis are:

- to create a smaller set of correlated attributes into dimensions or factors from the existing attributes that explain the most variance among the attributes and
- to apply the derived dimensions for subsequent analysis: to further calculate the strongest drivers or predictors of entrepreneurial career decision.

Principal component factor analysis with varimax rotation was first used to identify the underlying dimensions of the 30 attributes of individuals' tendency towards entrepreneurship. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was calculated to examine the appropriateness of factor analysis. In our case KMO was 0,75, indicating that factor analysis is appropriate. The decision whether to include an attribute into a dimension was based on several principles, including attribute loadings equal to or above 0,50; eigenvalues equal to or above 1,0; and the decision also included the recommendation that factors extracted should account for at least 60% of the variance (see for example Field, 2009; Iacobucci, 2013). As a result, a four-factor solution which categorized the 30 attributes of individuals' tendency towards entrepreneurship and explained 79,81% of the variance, was identified. We also tested the reliability and

validity. We tested reliability using Cronbach's Alpha, where the Cronbach's Alpha coefficient was higher than 0,70 in all cases and indicating that the measurement scale tested is reliable. We tested the validity with convergent validity and used Pearson's correlation coefficients. The correlation coefficients within each dimension are all very high and statistically significant which indicates the existence of convergent validity. Table 1 shows the results of four dimensions derived from factor analysis labelled as Need for independence and achievement (F1), Problem solving (F2), Planning (F3) and Dealing with uncertain situations (F4).

Table 1: Results of factor analysis – identification of underlying entrepreneurial tendency dimensions

Attributes	Factor loading			
	F1	F2	F3	F4
<i>Need for independence and achievement</i>				
Q1 - do you like to decide on your own?	0,77			
Q2 - are you fond of relying on your own?	0,67			
Q21 - are you in a position to determine which capabilities and knowledge do you need for success?	0,73			
Q22 - do you possess that capability and knowledge?	0,71			
Q24 - can you confront with the risk of failure?	0,62			
Q30 - are you able to distinguish between "must do" and "it will be nice to do"?	0,53			
<i>Problem solving</i>				
Q3 - are you fond of competition and do you respect the competition?		0,84		
Q13 - are you good at solving complex problems?		0,56		
<i>Planning</i>				
Q7 - do you make plans regularly?			0,88	
Q8 - are you willing to listen advices?			0,71	
Q9 - do you prepare regularly timetables of your activities?			0,86	
Q10 - do you work according to your timetables?			0,75	
<i>Dealing with uncertain situations</i>				
Q4 - are you self-initiative?				0,68
Q12 - do you manage good in unpleasant circumstances?				0,52
Q14 - do you cope with undefined situations?				0,5
Q26 - are you capable of following your goals in spite of other distressful elements?				0,63
<i>Eigenvalue</i>				
Eigenvalue	14,6	2,53	3,91	2,91
<i>% of variance</i>				
% of variance	48,65	8,43	13	9,71
<i>Cronbach's Alpha</i>				
Cronbach's Alpha	0,85	0,7	0,85	0,84

Source: own calculations.

We further calculated the strongest drivers or predictors of entrepreneurial career decision. We begin with a regression model in which we try to predict entrepreneurial career decision as a function of identified underlying entrepreneurial tendency dimensions. To avoid possible multicollinearity we verified measurement pattern via factor analysis and computed five means so as to have one score on each of the dependent and independent variables. According to the sample data the highest regression coefficients are with problem solving and the need for independence and achievement. These two underlying entrepreneurial tendency dimensions have the highest predictive power in deciding for an entrepreneurial career. Unfortunately, the calculated regression coefficients are not statistically significantly different from zero.

Conclusion

The literature demonstrates that individuals' entrepreneurial tendency is influenced by several characteristics. One of the characteristic is strong commitment and determination. The entrepreneur has to invest a lot of time in his business, also his resources, emotional affiliation, engagement, lifestyle also change. Successful entrepreneurs are in a constant search for opportunities, they have to respond quickly, they have to deal with risk, uncertain situations. Another important entrepreneurial characteristics are innovativeness, leadership, flexibility, problem solving. The results of the survey revealed four underlying entrepreneurial tendency dimensions, namely need for independence and achievement, problem solving, planning, and dealing with uncertain situations. However, the study could not provide evidence that these four identified dimensions have a significant effect on the entrepreneurial career decision, although the highest regression coefficients are with need for independence and achievement and problem solving. This is somehow in conflict with the idea that, for example, individuals with higher need for independence have higher tendency to start up a new business, especially if we take into consideration that Slovene culture is individualistic one.

The results also revealed that the intention to start up a new business is among Slovene students very high. This result could suggest that Slovene young people first think of what they can do for themselves instead of what can government do for themselves (very much coherent with think small first initiative). It reflects, self-initiative and proactiveness when facing with the problem of being unemployed. This is probably the result of overall negative public opinion on the work of Slovene government as well as labor market policy interventions which are not working in a manner as they should. For example, a self-employment subsidy is obviously not reaching the goals since after the two year period for which the subsidy stands for the vast majority of newly self-employed terminates their businesses. Policymakers should therefore have the goal to change labor market policy interventions in a comprehensive way to reach the specific target group (for example, unemployed youth) and provide new programs according to the labor market needs and provide measures that would follow individual before, during and after the certain program. This could also be done by hand with the educational policy. Entrepreneurial teaching/training/courses should become part of teaching curriculum also based on presentations of real-world entrepreneurs. This would suggest a growing interest for entrepreneurial career and consequently the greater job creation and improved competitiveness of the national economy.

References

- Burgelman, R.A. (1983). A process model of internal corporate venturing in the diversified major firm. *Administrative Science Quarterly*, Vol. 28, No. 2, pp. 223-244.
- EC (2013). Entrepreneurship 2020 Action Plan.
- EC (2010). Entrepreneurship in the EU and beyond. Flash eurobarometer analytical report.
- EC (2008). Small Business Act.
- Eurostat (2014). Eurostat Newsrelease Euroindicators – euro area unemployment rate.
- Famous, I. and Chinonye, O. (2008). Assessment of the Entrepreneurial Characteristics and Intentions among Academics. *Ife Psychologia*, Vol. 6, No. 2, pp. 173-193.
- Ferreira et al. (2012). A model of entrepreneurial intention. An application of psychological and behavioral approaches. *Journal of Small Business and Enterprise Development*, Vol. 19, No. 3, pp. 424-440.
- Field, A. (2009). *Discovering Statistics Using SPSS*. Sage, Thousand Oaks. CA.
- Hannu, L. (2000). Entrepreneurship and the characteristics of the entrepreneurial personality. *International Journal of Entrepreneurial Behavior and Research*, Vol. 6, No. 6, pp. 295-310.
- Hemantkumar, P.B., Shailesh, G. and Porey, P.D. (2010). A Comparative Study of Enterprising Tendency with the Help of Selected Cases in India. *International Journal of Trade, Economics and Finance*, Vol. 1, No. 4, pp. 392-399.
- Hofstede, G.H. (2001). *Culture's Consequences: Comparing Values, Behaviors, Attitudes, Institutions, and Organizations across Nations*. Sage, Thousand Oaks. CA.
- House, R.J. et al. (2004). *Leadership, Culture, and Organizations: The Globe Study of 62 Societies*. Sage, Thousand Oaks. CA.
- Iacobucci, D. (2013). *Marketing Models. Multivariate Statistics and Marketing Analytics*. South-Western Cengage Learning. CA.
- Kanter, R.M. (2004). The middle manager as innovator. *Harvard Business Review*, Vol. 82, No. 7/8, pp. 1-16.
- Karimi, S. et al., (2011). Application of Structural Equation Modelling to Assess the Effect of Entrepreneurial Characteristics on Students' Entrepreneurial Intentions. Proceedings of the European Conference on Entrepreneurship and Innovation, pp. 954-967. Robert Gordon University, Aberdeen, Scotland.
- Kume, A., Kume, V. and Shahini, B. (2013). Entrepreneurial Characteristics amongst University Students in Albania. *European Scientific Journal*, Vol. 9, No. 16, pp. 206-225.
- Kuratko, D.F. et al., (2004). Sustaining corporate entrepreneurship: modeling perceived implementation and outcome comparisons at organizational and individual levels. *Journal of Entrepreneurship*, Vol. 5, No. 2, pp. 77-89.
- Kuratko, D.F. et al., (2005). A model of middle-level managers' entrepreneurial behavior. *Entrepreneurship Theory and Practice*, Vol. 29, No. 6, pp. 699-716.
- Lau et al. (2012). The entrepreneurial behavior inventory. A simulated incident method to assess corporate entrepreneurship. *International Journal of Entrepreneurial Behavior and Research*, Vol. 18, No. 6, pp. 673-696.

- Man, T.W.Y. (2008). Entrepreneurial competencies and the performance of small and medium enterprises: an investigation through a framework of competitiveness. *Journal of Small Business and Entrepreneurship*, Vol. 23, No. 3, pp. 257-276.
- Mitchelmore, S. and Rowley, J. (2010). Entrepreneurial competencies: a literature review and development agenda. *International Journal of Entrepreneurial Behavior and Research*, Vol. 16, No. 2, pp. 92-111.
- Tajeddini, K. and Mueller, S.L. (2009). Entrepreneurial Characteristics in Switzerland and the UK: A Comparative Study of Techno-Entrepreneurs. *Journal of International Entrepreneurship*, Vol. 1, pp. 1-25.
- Wang, L. (2012). A cross-cultural study of motivation for self-employment. Comparing China, Mexico, and the USA. *International Journal of Entrepreneurial Behavior and Research*, Vol. 18, No. 6, pp. 649-672.
- Welter, F. and Smallbone, D. (2011). Institutional perspectives on entrepreneurial behavior in challenging environments. *Journal of Small Business Management*, Vol. 49, No. 1, pp. 107-125.
- Zampetakis, L. and Moustakis, V. (2007). Entrepreneurial behavior in the Greek public sector. *International Journal of Entrepreneurial Behavior and Research*, Vol. 13, No. 1, pp. 19-38.

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ORIGINAL SCIENTIFIC ARTICLE
Received: November 03, 2014
Accepted: December 02, 2014

PHARMACEUTICAL SECTOR IN SERBIA IN THE PERIOD 1990-2013⁴

Abstract

In this paper authors give an overview of the development of the pharmaceutical industry in former Yugoslavia and Serbia in the period 1990-2013. The aim is to examine whether pharmaceutical industry, which was largely fragmented at the beginning of 90's, after a decade of privatization and restructuring had come to consolidation. In this paper we review the essentials of the pharmaceutical industry as well as key trends in that industry. In addition, there has been analyzed the privatization process in the pharmaceutical sector, as well as the outcomes of these privatizations. There was also presented the market distribution with market shares of the largest manufacturers of drugs and medical products, and trends that have shaped the market structure of the pharmaceutical industry in the analyzed period. In conclusion we can say that foreign owned pharmaceutical companies, as compared to domestic companies record higher and above average levels of profitability indicators. This indicates that there is a need for another round of restructuring in public owned companies in Serbia.

Key words: *Pharmaceutical sector, Serbia, Economic trends*

JEL Classification: L650

ФАРМАЦЕУТСКИ СЕКТОР У СРБИЈИ ОД 1990. ДО 2013. ГОДИНЕ

Апстракт

У раду је дат преглед развоја фармацеутске индустрије у периоду од 1990. до 2013. године у тадашњој Југославији и данашњој Републици Србији. Циљ рада је да се провери да ли је у фармацеутској индустрији која је била у великој мери фрагментирана, након деценије приватизације дошло до консолидације. У раду је дат посебан осврт на специфичности фармацеутске индустрије и као и на кључне трендове у фармацеутској индустрији уопште. Додатно се посебно анализира процес приватизације у фармацеутском сектору, као и исхода тих приватизација. Такође дат је детаљан приказ

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⁴ The paper presents the results of a study conducted as part of the projects 179001 funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia

тржишног учешћа највећих произвођача лекова и медицинских препарата и дата су појашњења о основним трендовима која су обликовала тржишну структуру фармацеутске индустрије у анализираном периоду. Као закључак се може рећи да фармацеутске компаније које су у страном власништву у поређењу са компанијама у домаћем власништву бележе веће и изнад просечне вредности индикатора профитабилности. То указује на потребу још једног круга реструктурирања.

Кључне речи: *Фармацеутски сектор, Србија, Привредни трендови*

Introduction

Pharmaceutical industry has its own peculiarities like any other industry. They are arising from the peculiarities of the production process, the basic characteristics of the products of this industry and the legislation regulating the release of drugs and other medical preparations in the market.

The pharmaceutical industry belongs to high technology industries. It is necessary to comply with strict industrial and health standards that make up the production process extremely complex. In order to create new products, the pharmaceutical industry applies newly acquired knowledge from two fields of science, namely medicine and pharmacy. Taking into account nature of scientific multidisciplinary of pharmaceutical industry, the nature and importance of pharmaceutical products, it is not surprising that development and production of new drugs and other medical products require substantially high levels of resources and investments in new technologies and development of human resources. The average period for introduction of a new original drug takes in average of 10 to 15 years, out of which up to 10 years is spent on their development.

A drug that is under patent protection for its drug substance has an absolute protection and represents the original drug. Upon expiration of a patent drug becomes generic. Generic drugs⁵ are pharmaceutical products under the expired basic patent protection (patent protection on the drug substance). On the market they are sold under the non-proprietary name (commodity generics) or under the brand name-stamp (brand generics). The key criteria that need to be fulfilled in order for a generic drug to be allowed for free market sale is bioequivalence. Bioequivalence means that the generic drug must have substantially the same speed and duration of action in the body, if consumed in the same dosage as the original drug. The major difference between generic and innovative drugs is the selling price. For that reason in many countries generic drugs are being used to a greater extent. In recent years, generic companies are paying increasing importance on innovation, thus creating innovative generic drugs. These innovations in the production of generic drugs, pharmaceutical companies may also be protected as a patent (Jovanovic, Dragutinovic & Matović; 2009). Considering the potential for innovation in generic production of medicines, according to Jovanovic et al. (2009) all generic drugs can be divided into:

⁵ Under the Law on Medicines and Medical Devices (Government of Serbia, 2010) definition of generic drugs is as follows: "Generic or substantially similar drug, is a drug that has the same qualitative and quantitative composition of the active substance in the same pharmaceutical form as the reference medicinal product, with proven bioequivalence compared to the reference drug derived through appropriate bioavailability studies". A reference drug is a drug that was first given permission for release on the basis of its own data on quality, safety and efficacy.

- Conventional generics - after the expiry of the basic patent protection they may be marketed under the international non-proprietary name (INN) or the brand name;
- Specialties - preparations in common forms (tablets, injections) which are innovated, such as a system with sustained release of the drug. They represent bioequivalent products with high barriers and have higher rates of commodity generics;
- Biogenerics - bioequivalent and clinically equivalent versions of biological products. Their introduction to the market is more complex compared to conventional generics;
- Supergenerics - products with high added value, obtained by the reformulation of drugs varying degrees. They have an enhanced therapeutic effect based on some change in the structure of molecules or new salts, esters, or a new form of the drug. They require clinical trials and new complete registration documentation.

According to some authors (Adžić & Adžić, 2013; Ciceli et al 2008; Wrzochalska, 2009) patent protection of original drugs (up to 20 years) is an essential element in the development of original drugs, because it allows the manufacturer a monopoly position in the market during the period of patent protection. In contrast to the development of original drugs, the development and marketing of generics, biogenerics and supergenerics drugs requires significantly lower costs. In recent years, apart from negative impact of the global economic crisis, global drugs sales of innovative companies had been influenced by termination of the basic patent protection for valuable products, the introduction of generic drugs and marketing of innovative generic drugs. At the end of 2004, about 35% of best-selling drugs in the world have lost patent protection (Simoens & Coster, 2006). As of 2010 the pharmaceutical industry has been faced with the largest recorded wave of expiration of patent protection for original drugs (patent cliff). In the period 2010-2015 a high number of best-selling drugs in history will lose patent protection which will result in a significant expansion of cheaper generic copies of original drugs (Jovanovic, Matović, Brown, 2010). In November 2011 four drugs with highest recorded sales volumes have lost patent protection. They include: Lipitor (atorvastatin), Caduet (amlodipine/atorvastatin), Combivir (lami vudine/zidovudine), and Solodyn (minocycline - tablet with extended range). Combined, on a global level they generated sales revenue in the amount of approximately 7 billion US\$. It was expected that by the end of 2012 patent protection would expire for drugs whose total sales at the global level were estimated at about 30 billion US\$. It is estimated that generic companies will overtake part of sales of companies which own the patents on the original drugs for the estimated value of approximately \$ 67 billion. It is expected that in the period 2012-2015 due to the expiration of patent protection on best-selling original drugs (blockbuster drugs) there will be offered generic drugs in the estimated value of 250 billion US\$ (DeRuiter & Holson, 2012).

Drugs and other medical preparations significantly differ from other consumer products. Examples of their specificities are: drugs are treated as products of great importance; their demand is often influenced by psychological and emotional effects; end users often do not have adequate knowledge and information about the utility and quality of the drug; fear of diseases may create an unreasonable growth in demand for drugs; price rarely plays important role in prescribing drugs. Because of these characteristics circulation of drugs and other medical products is specifically regulated by law. Issuing permits drugs and medical devices sale is under jurisdiction of an appropriate executive authority, most often it comes to the Agency for Medicinal Products and Medical Devices. For a drug

to be allowed for sale it must be pharmaceutically, pharmacological-toxicologically and clinically tested. In addition, when approving drugs for free sale, the competent agency shall take into account the provisions of international agreements on compulsory marketing of high quality, safe and effective medicines, the flow of fake drugs and illegal traffic of unregistered medicines.

In Republic of Serbia there exist a total of five lists of drugs that are issued to the mandatory health insurance: A, A1, B, C and D. Their range depends on the degree of development of their pharmaceutical industries as well as the economic potential of the country. A large part of the revenue of pharmaceutical companies is coming from the sale of drugs that are on the positive list of the National Health Insurance.

Methodology

In this paper we have mainly used secondary data sources. They were used as a source for conducting longitudinal comparative study in Serbian pharmaceutical industry. Initially there has been conducted a historical review of the process of ownership transformation in pharmaceutical industry. The trends were monitored with a goal to test the level of sustainability of this industry in rapidly changing conditions in the environment. At the same time it was possible to monitor the degree of fragmentation of the market as well as the susceptibility to changes that occurred after the entry of new global competitors in Serbian market. Finally by the means of comparison of income and gross value added levels we have monitored the level of profitability of the industry.

Market structure and competitors analysis pharmaceutical industry

Twelve major drug producers for human use in FR of Yugoslavia in 1998 were: „Hemofarm Koncern“ Vršac, „Galenika AD“, Beograd, „Zdravlje“ Leskovac, „Jugoremedija“ Zrenjanin, „Zorka – Pharma“ Šabac, „Panfarma“ Belgrade, „Fampharm“ Kruševac, „Farmakos“ Prizren, „Hemoved“ Vršac, „Hemomont“ Podgorica, „Sanitarija“ Novi Sad and „Slavijamed“ Belgrade. Six out of 12 companies had a status of large companies, five were medium and only one was small sized. In 1998 all companies employed 7.926 workers which accounted for 85% out of total employment in the drugs and pharmaceuticals industry. Sales volume of drugs for human consumption was equal to approximately €60 million (Government of Yugoslavia, 1999).

The dominant ownership form for those companies in 1998 was a mixed ownership. In fact ten out of twelve listed companies were in joint ownership, and the other two were publicly owned. In mixed ownership companies share of private ownership in average was equal to 20% of total value, while the rest referred to public property (Government of Yugoslavia, 1999). Those companies have been transformed according to prior Laws on ownership transformation (on the model of internal shareholding). Only in company Galenika AD there was an exception to the rule and in that company 75% of total capital was state owned by the National Health Insurance Company. At that time there existed a plan by which 4 mixed owned companies and one public owned company should have been privatized under the Law on Ownership Transformation Act from 1997.

Companies in the pharmaceutical industry belonged to a group of 1,500 companies that began the process of ownership transformation in early stages. About two-thirds of all pharmaceutical companies began a process of privatization by a model of internal

shareholding, which was the only legally allowed process of privatization at that time (Law on Social Capital in 1990 and the Law on Ownership Transformation Act of 1991). This resulted with majority ownership of companies being given to workers of these enterprises.

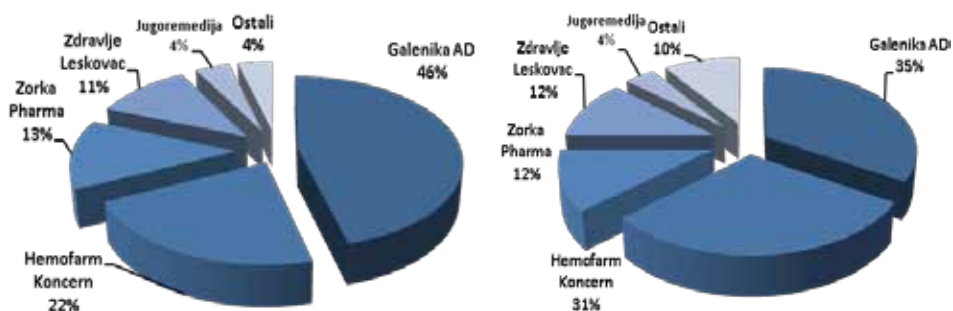
Companies which have entered the process of ownership transformation according to laws of 1990 and 1991 as a rule have been successful enterprises. To that group of successful companies all pharmaceutical companies were included, although according to official financial statements they should not have been classified as such. One of the main factors that generated poor business results of pharmaceutical companies was the high degree of government regulations in the drugs market. State control regulating prices of pharmaceutical products usually resulted with depressed or below actual market prices. The state aimed to provide sufficient quantities of medicines to health institutions. At the same time those institutions did not regularly fulfill their financial obligations to suppliers despite subsidized prices.

The pace of privatization in pharmaceutical (along with all other) companies has significantly accelerated during 1993 due to hyperinflation and devaluation of the debts which was caused by the sale of shares on installments. In the absence of provisions on revaluation of debt for inflation, many enterprises in the former Federal Republic of Yugoslavia have been fully privatized. After stabilization of prices in early 1994 and due to changes in legal regulations which declared void all inflationary gains and by which all ownership changes were due to conduct revaluation, almost all privatizations were canceled (Government of Serbia, 1994).

As a result of changed legislations there has been recorded a reduction in the share of private ownership from 43% to only few percent (Government of Yugoslavia, 1999). Among pharmaceutical companies participation of private capital has been reduced to 20.4% (Government of Yugoslavia, 1999). Apart from good intentions to terminate hyperinflationary profit in privatization, revaluation proved to be very harmful. It caused resistance to privatization in successful companies that have first started the process of privatization, among which belonged the pharmaceutical companies.

By the end of 1997 Galenika became the most important manufacturer whose production of medicines for human use accounted for 40% of total production in Federal Republic of Yugoslavia (Government of Yugoslavia, 1999). After Galenika has been removed from the “positive list” in the second half of 1998 there have been significant changes in market shares of pharmaceutical products in Yugoslavia. Market share in almost all pharmacological groups of drugs for Galenika were reduced from an average of 59.7% in 1997 to 34.7% in 1998. The largest part of the market was taken over by Hemofarm Concern from Vrsac, whose market share increased from 20.9% in 1997 up to 31.3% in 1998. After these changes in market distribution Galenika and Hemofarm Concern jointly held 66% of the market for medicines for human use.

Figure 1 - Market share by value of production in medicines for human use
1994-1997 1998.



Source: Government of Yugoslavia (1999)

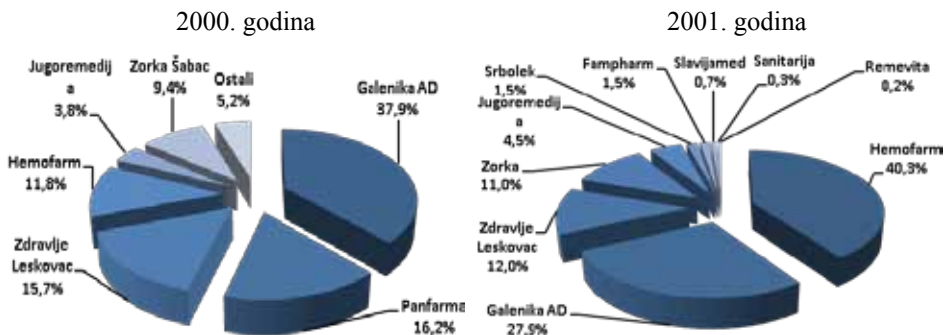
Deset najprodavanijih proizvoda „Zdravlja“ AD Leskovac u svojim tržišnim nišama u 2001. godini zauzimali su udeo između 40% i 60% (Zdravlje, 2002). Pozicija „Zdravlja“ AD Leskovac je posebno bila jaka u tržišnim nišama gastrointestinalnih i respiratornih lekova gde su imali udele od 50% odnosno 34% respektivno. „Zdravlje“ AD značajna tržišna učešća je ostvarivalo i na tržišnim nišama lekova za trudnice (26%), bolesti krvi i bolesti organa koji učestvuju u krvnoj genezi (23%) i metabolizma i regulisanja ishrane (18%)(Zdravlje, 2002). „Jugoremedija“ je u periodu od 2000. do 2004. godine uspela da podigne svoje tržišno učešće sa prosečno 4% na 8% tržišnog učešća. Imajući u obzir veličinu tržišta farmaceutskih proizvoda SRJ i broj učesnika na njemu, tržište farmaceutskih proizvoda je bilo značajno fragmentirano.

Pharmaceutical market in the period from 2000-2004 was significantly fragmented. This period was also marked by very low levels of investment in research and development.

In the pharmaceuticals' market in Yugoslavia during the period 2000-2004 operated twelve pharmaceutical companies. Galenika and Hemofarm kept the first two positions by the volume of sales. Yugoslavian pharmaceutical market in 2001 was dominated by four pharmaceutical companies with a common share of around 80%. Hemofarm significantly increased its market share after acquisition of the pharmaceutical company Zorka from Sabac during 2002.

If we take a look at company Zdravlje Leskova we may note that their ten best-selling products in 2001 generated market share up to 60% in respective market niches (Zdravlje, 2002). Zdravlje Leskovac was particularly strong in the niche markets of gastrointestinal and respiratory drugs where they had share of 50% and 34% respectively. They exercised significant market shares in drugs for pregnant women (26%), blood disorders and diseases of the organs involved in the genesis of blood (23%) and metabolic regulation of feeding (18%) (Zdravlje, 2002). Company Jugoremedia in the period 2000-2004, managed to raise its market share with from 4% to 8%. Taking into account the size of the market of pharmaceutical products FRY and the number of participants on it, the pharmaceutical products was significantly fragmented.

Figure 2 – Market share of domestic pharmaceutical companies in Yugoslavia



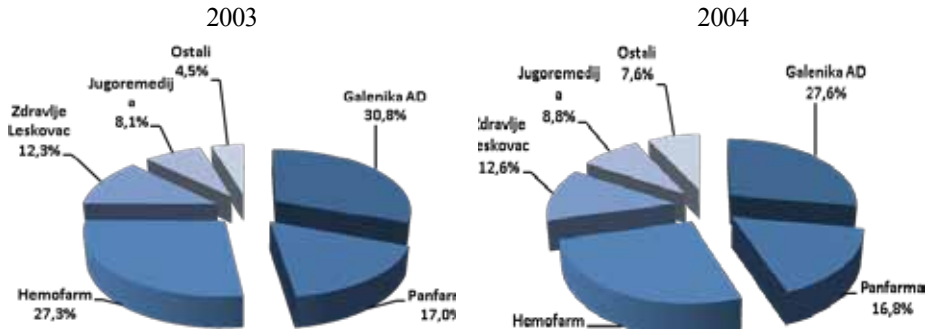
Source: Authors' calculations

The period after 2000 was characterized by gradual increase in market share of imported pharmaceutical products. Prior to year 2000, the value of imports of drugs and other pharmaceutical products was relatively small. For that reason domestic producers have had dominant position in the market of pharmaceutical products. However, in subsequent years, domestic producers had been losing dominant position for several reasons. At first company ICN the owner of Galenika has stopped supplying the market after a dispute with the state

over the contractual rights and obligations. Moreover, other pharmaceutical companies have not been able to import enough raw materials of the desired quality in order to produce sufficient quantity of the final product. This has resulted with faster growth of imports of pharmaceutical products in the following years and gradually growth of market share of imported pharmaceutical products.

According to Zubovic (2008) in the period 2001-2006 foreign trade has had a steady upward trend in the trade deficit, with a higher rate of increase in imports by 24.14% compared to the growth rate of exports which equaled 14.63%.

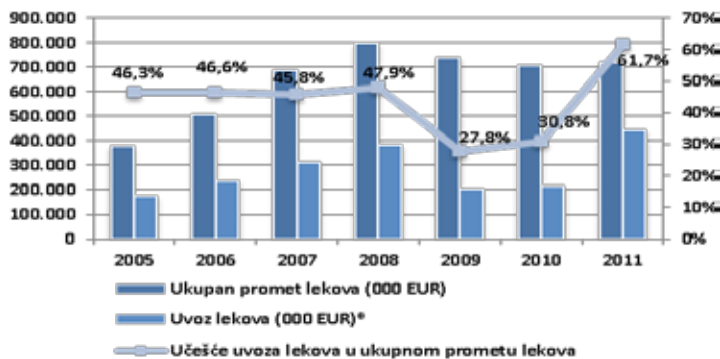
Figure 3 - Market shares in drugs sales in 2003 and 2004



Source: Authors' calculations

High levels of market fragmentation lead to weak bargaining position of domestic pharmaceutical enterprises in domestic and foreign suppliers and vendors. That further contributed to increased costs of production and distribution as well as the overall increase of inefficiencies in the business. High market fragmentation, pressure from foreign competition and inefficiencies in production pointed to the need for consolidation of the pharmaceutical industry in the coming years, which eventually did happen.

Figure 4 – Total sales and imports of drugs in Serbia in the period 2005-2011



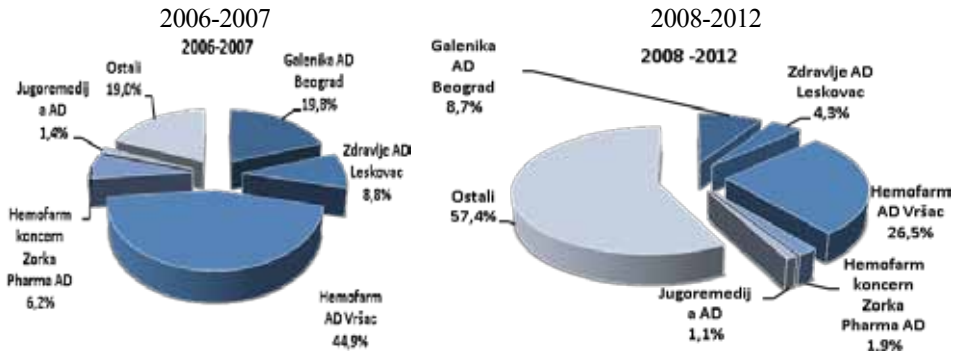
* Custom tariffs 3003 i 3004;

Source: Trademap

Looking at the relative share of individual producers, pharmaceutical market indicated the existence of oligopolistic market structures during 2006. Broken down by individual

producers, dominant share had Galenika and Hemofarm (the largest domestic exporter of drugs). Bearing in mind the link between legal entities Hemofarm with Zorka, Panfarm and Hemomont, domestic drug market in this period could be characterized as a pure oligopoly.

Figure 5 - Average market shares by sales volume in pharmaceutical industry



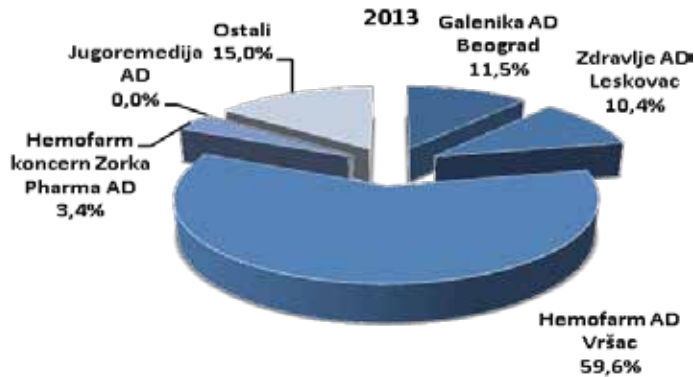
Source: Authors' calculations based on Serbian Company Register

The period 2008-2013 was characterized by negative market conjuncture, which was result of global economic crisis and significant illiquidity of the pharmaceutical sector in the Republic of Serbia.

The most significant factor contributing to the sharp rise in insolvency of pharmaceutical company was delay in payment for medicines supplied by government institutions (Republic Institute for Health Insurance and other health institutions) to wholesalers and drug manufacturers. In support of previous statements goes the fact that at the end of 2010 debt of National Health Insurance Fund to pharmacies has grown to over 14 billion RSD (€140 million), which had seriously eroded stability of the health system in the country. In addition National Health Insurance Fund in February 2011 signed a protocol with drug manufacturers stipulating pharmaceutical companies to reduce claims for drugs to the Fund by 10%, thus ensuring security of supply markets. Protocol was signed by leading pharmaceutical companies in Serbian market. The agreement in the Protocol applies to drugs in List A and A1, while for medicines from List B will be applied using the same principle, but through procurement procedures that will be implemented by healthcare facilities.

The aforementioned crisis of insolvency, and bad business decisions led the drugs companies (Velefarm, Vetfarm, Unifarm) to insolvency and drugmakers such as Habitfarm and Srbolek to bankruptcy and liquidation. At the same time position of Galenika as the largest drug manufacturer in Serbia was threatened. Changes in the market were best used by Hemofarm which managed to retain its market, despite the decline in total turnover in the market. Company Jugoremedija had significantly lost its market share in this period due to cease in production, repair of existing production facilities and liquidity problems. Those circumstances finally led to the complete collapse of the company.

Figure 6 – Market share by sales volume in pharmaceutical industry in 2013

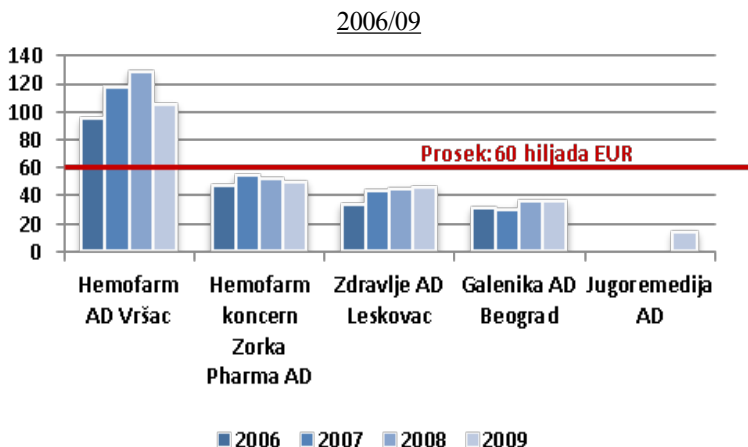


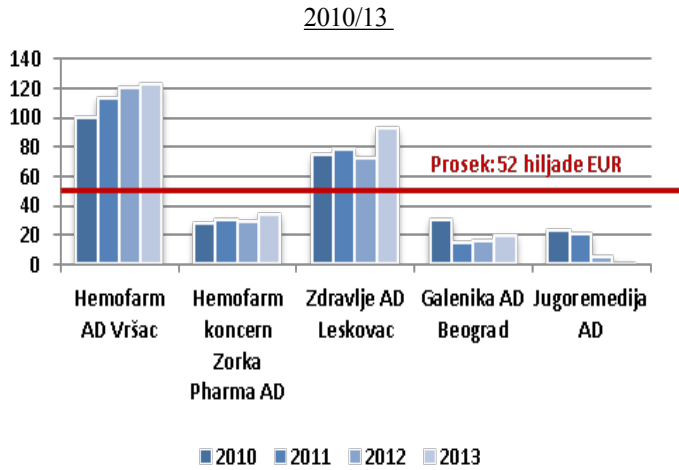
Source: Authors' calculations based on Serbian Company Register

Profitability and Gross Value Added Indicators

Observing the sales revenue per employee in largest drug producers in Serbia during the period 2010-2013, above the average values were recorded in company Zdravlje (average of € 52,000). Jugoremedija had recorded the lowest values according to this indicator. At the same time foreign owned companies (Hemofarm and Zdravlje) have recorded higher and above average values of observed indicator, compared to companies that were 100% owned by domestic capital (Galenika and Jugoremedija).

Figure 7 - Sales revenues per employee in selected companies and total average in the period 2006/09 and 2010/13

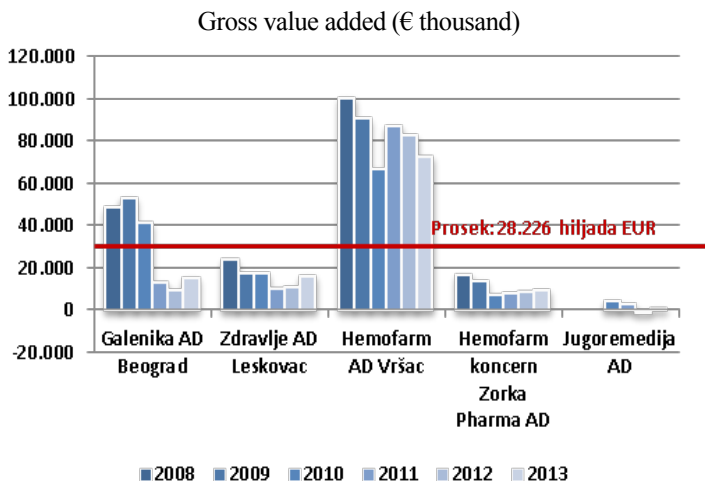


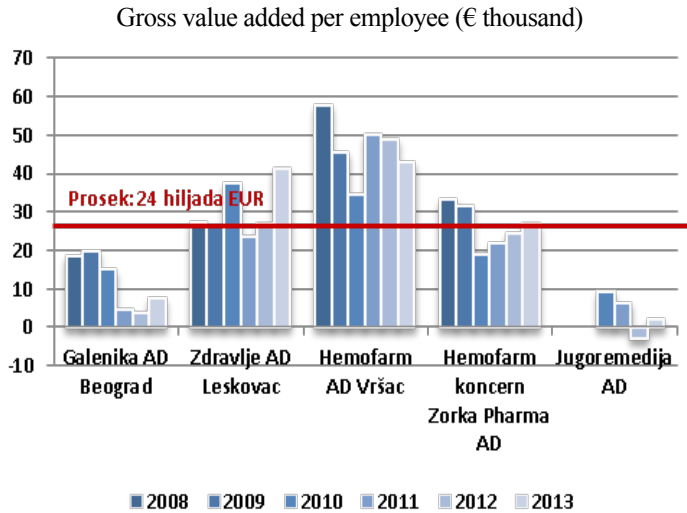


Source: Authors calculations based on data of Serbian Business Registers Agency

In the period 2008-2013 Zdravlje has generated gross value added that was under the average value in pharmaceutical branch. There was also recorded a negative trend in created value added in the observed period, caused by poor business results that characterized the period 2009-2012. In same period, below average values of GVA was also recorded by Jugoremedija. Gross value added of largest companies in production of pharmaceutical preparations was in average approximately €28.2 million, while GVA per employee in same period amounted to €24,000.

Figure 8 - Gross value added and gross value added per employee in selected companies in pharmaceutical preparations, in the period 2008. - 2013.





Source: Authors calculations based on data of Serbian Business Registers Agency

Conclusion

In the period 1990–2013 besides wars and disintegration of country, decisive impact on pharmaceutical industry in Yugoslavia/Serbia had a processes of privatization and market liberalization. Structure of the pharmaceutical industry in pre-war Yugoslavia was designed so that there was competition between pharmaceutical companies from different republics, but not within the one republic. This illusion of market economy and competition had ceased to exist with the breakdown of former Yugoslavia, when started a true market competition between national producers of pharmaceutical and medical products. After former Yugoslavia had fallen apart, there was an attempt of pharmaceutical companies' privatization by the model of internal share ownership, although certain pharmaceutical companies have not gained all preconditions to initiate privatization. Privatization process in former Federal Republic of Yugoslavia was accelerated during the 1993 due to hyperinflation, but after price stabilization and change in legislation in 1994 privatization processes were almost annulled.

Until 1997 Galenika dominated pharmaceutical market with market share of about 40% in the total volume of sales of drugs for human. However, after Galenika was removed from the positive list of the National Health Insurance Fund, in the second half of 1998, there came significant changes in market shares on the market of pharmaceutical products of the former Federal Republic of Yugoslavia. In the following years, national pharmaceutical market had become more fragmented. That period was characterised by small volume of investments in research and development. The process of privatization of pharmaceutical companies continued after 2000. Successful privatizations were led by foreign owned companies. However there did not significantly increase production, but they made a significant investment and considerably increased a profitability margin through the reduction of number of employees. After 2000 there had been gradual increase of market share for imported pharmaceutical products.

High market fragmentation, pressure of foreign competition and production inefficiency resulted with the need for consolidation of the pharmaceutical industry in upcoming period. Excluding drug wholesalers that had significant share within the total turnover of drugs and medical devices in Serbia, relative shares of certain drug producers indicated the existence

of oligopolistic market structure. It is indicative that the pharmaceutical companies owned by foreign capital recorded higher and above average values of the profitability indicators compared to companies that were majority owned by domestic shareholders. That indicates the need for domestic owned pharmaceutical companies to impend another round of restructuring

References

- Adžić, S., & Adžić, J. (2013). Transition of the Health Care System and Sustainable Economy-Case Study for Serbia. *American Journal of Public Health*, 1(1), 1-9.
- Cicea, C., Cvijanović, D. V., & Subić, J. (2008). The health care systems in European Union and international comparison. *Ekonomika*, 54(1-2), 9-19.
- Government of Serbia (2010), *Law on Drugs and Medical Devices*, Belgrade, Službeni glasnik 30/2010
- DeRuiter J, Holson P (2012) Drug Patent Expirations and the „Patent Cliff“, retrieved from <http://www.uspharmacist.com/content/s/216/c/35249>
- Jovanović, S., Dragutinović S i Matović D (2009), Specificnosti regulative u oblasti lekova, *Pravni život*, no.9, Volume 1, Book 529, pp 1025-035, Udruženje pravnika Srbije, Belgrade, Serbia
- Jovanović, S., Matović, D., & Petrović, S. (2010). Innovative and generic pharmaceuticals industry and drugs market. *Industrija*, 38(1), 105-119.
- Simoens, S., & De Coster, S. (2006). Sustaining generic medicines markets in Europe. *Journal of Generic Medicines: The Business Journal for the Generic Medicines Sector*, 3(4), 257-268.
- Government of Serbia (1994) Pravilnik o načinu revalorizacije vrednosti društvenog kapitala koja je utvrđena u postupku pretvaranja društvene svojine u druge oblike svojine i vrednosti upisanih deonica. *Službeni glasnik Republike Srbije*, br. 62/1994
- Government of Yugoslavia (1999) Pharmaceutical development strategy of FRY, Belgrade, Economics Institute
- Study on Consolidation of the Pharmaceutical Industry in Yugoslavia, 2001. godine
- Wrzochalska A (2009): Selected aspects of life and health condition of the rural population in Poland, *Ekonomika poljoprivrede, IEP Beograd*, vol. 56, br. 2, str. 245-254
- Zdravlje (2012) Information Memorandum, Leskovac, July 2012
- Zubović J (2008) Development of pharmaceuticals sector in Serbia following world trends tariffelimination in ed. Drašković B, Vuković V, Belgrade, Institut ekonomskih nauka, pp 266-277.

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ORIGINAL SCIENTIFIC ARTICLE
Received: November 15, 2014
Accepted: December 02, 2014

REVISITING NEW INSTITUTIONAL ECONOMICS: BASIC CONCEPTS AND RESEARCH DIRECTIONS³

Abstract

In the last four decades there is a renewed interest within the economic theory for the institutional structures. Numerous, multiple and often unpredictable effects of institutions on economic process are differently reflected among the leading schools of economic analysis. Certainly, in this sense, the greatest attention should be given to the stream of economic thought known as institutional economics. This heterogeneous research orientation today is already clearly differentiated on Veblenian and the new institutional economics. The paper will make, in the light of its recorded achievements and the subjects of interest of its main protagonists, a general insight into the new institutional economics.

Keywords: neoclassical economics, institutions, new institutional economics, property rights, transaction costs,

JEL Classification: B31, B41, B52, D21, D86, E02, N01.

РЕКОНСИДЕРАЦИЈА НОВОГ ИНСТИТУЦИОНАЛИЗМА: ОСНОВНЕ КОНЦЕПЦИЈЕ И ПРАВЦИ ИСТРАЖИВАЊА

Апстракт

У последње четири деценије обнавља се интересовање економске теорије за институционалне структуре. Бројна, вишеструка и неретко тешко предвидива дејства институција на економски процес промишљају се на различите начине међу водећим економским правцима економске анализе. Свакако да у том смислу највећу пажњу заслужује ток економске мисли познат као институционалистичка економија. Ова хетерогена истраживачка оријентација данас је већ јасно диференцирана на вебленовску и нову институционалну економију. У раду ће бити, у светлу њених досадашњих достигнућа и предмета интересевања главних протагониста, учињен генерални приказ нове институционалне економије.

Кључне речи: неокласична економија, институције, нова институционална економија, својинска права, трансакциони трошкови.

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³ This paper is part of the project “Improving the Competitiveness of the Public and Private Sector by Networking Competences in the Process of European Integration of Serbia”, which is, under number 179066, funded by the Ministry of Education, Science and Technological Development of Republic of Serbia.

Introduction

For a long time the economic theory tries to decipher the nature and channels of influence of those structures that cannot be grasped within the conventional, equilibristic thinking about economic processes. It may be no exaggeration to state that the history of economic thought records permanent warnings of the dangers of ignoring the subtle, cultural, historical and socio-psychological processes that pervade economic activity. Some of the great thinkers of the economic science, such as Smith, Mill, List, Marx, Hayek, and others, have dealt with, in their systems of economic thought, among other things, their detection and explanation. Some of the modern schools of economic thought ascribe special importance to the non-economic components of the processes in the contemporary economy. This applies particularly to the economic doctrines of heterodox orientation - the Austrian school, radical, gender, behavioural, institutional economics and others. The above-mentioned theoretical streams and schools of thought strive to sensitize the economic orthodoxy on institutional structures or find an epistemological alternative. Undoubtedly a significant step forward in the above sense is made within institutional school of economic thought, which considers institutional arrangements of society and their economic implications as its central point of occupation. This economic doctrine is composed of two, it could be concluded without a lot of reserves, partially conflicting theoretical currents: the old and the new institutionalism. The paper will outline relevant concepts of the new institutionalism. For these purposes will serve the insight into the main lines of research within the new institutionalism: the economic theory of property rights, institutional economic history and theory of the firm based on transaction costs.

1. New Institutionalism - A General Overview

The new institutionalism represents a school of economic thought with growing influence, as evidenced by the awarding the Nobel Prize in Economics, to the three of its leaders - Ronald Coase (1910-2013), Douglas North (b. 1920) and Oliver Williamson (b. 1932). Armen Alchian (1914-2013), Harold Demsetz (b. 1930), Steve Pejovich can also be counted among the major representatives of this doctrine.

The protagonists of the new institutional economics seek to extend conventional economic theory, by introducing the concept of institution into its analytical apparatus. It should firstly be explained, what is meant by the expression “conventional economic theory” or “economic orthodoxy”.

Economic orthodoxy is the common name for the widely accepted theoretical framework, known also as neoclassical, developed within marginalism, starting with the parallel contributions of Alfred Marshall (1842-1924) and Léon Walras (1834-1910). It is based on well-known model of economic reproduction, understood as a generalized market exchange between households and firms, which is managed through the variations in market prices and application of the marginal principle in shaping the supplied and demanded quantities of goods and resources. It should be noted here that this model is articulated differently by the aforementioned founders of the economic mainstream. Valrases theory of general equilibrium, in principle, rests on the same mechanisms as Marshall's, with some differences related to the issues of the role of the time factor, nature of non-equilibrium states, generality of equilibrium and others. (De Vroey, 2004, p. 64-65)

The starting point of neoclassical economics are “agents” (individuals, households or firms), whose desires and needs are unlimited. On the other hand are the restrictions

embodied in scarcity of resources to address these needs. The tension between the needs and constraints is solved by the market, where the pulsating of prices leads to responding to the needs of agents (Weintraub, 2002). Theoretical architecture of neoclassical economics relies on the specific assumptions that can no be put to the question, that have naturalistic, universal validity (Weintraub, 2002):

1. agents have rational and stable preferences of the outcomes;
2. agents behave as maximizing subjects - individuals maximize their utility, companies maximize profits;
3. agents act independently and have complete information about their environment.

All the above mentioned assumptions can be summarized in one - agents are rational. Since they have a perfect knowledge of the environment, they always make optimal decisions, thus maximizing their target functions. The rational behaviour of agents leads to equilibrium, at which any further reallocation of assets and resources is sub-optimal, because it would not have been achievable without deterioration of one's relative position (Pareto optimality).

Neoclassical understanding of the economy owes its current influence to the fact that it represents a logical approach, extremely suitable for the mathematical interpretation and further theoretical upgrading. Most of currently dominant economic doctrines, with certain adjustments, accept neoclassical microeconomic model as a framework for their research and creation of new economic concepts.

New institutionalists observed deficiencies in the neoclassical reflection of the economy. Developing on neoclassical grounds, they try to modify and redesign this epistemological structure in order to increase its level of realism.

In this sense, the new institutionalism accepts the neo-classical propositions of scarcity, competition, economics as a science of choice under certain restrictions, and the role of relative prices in the allocation of resources. The proposition that the new institutional economics modify is rationality. Furthermore, the concept of institution is considered as an essential element of economic analysis (North, 1994).

Institutions are defined as the humanly devised constrains, that structure political, economic and social relations between individuals (North, 1991, p. 97). Institutions are the “rules of the game” in a society, which fundamentally influence the behaviour of agents (North, 1990, p. 3). Preferences of agents, their incentives for economic activity, as well as their degree of rationality are largely the result of influence of social institutions under which they live.

The entire institutional economics is concentrated around institutions as the central concept. The essential features of institutions may be indicated as follows:

1. Institutions are the rules (patterns) behaviour.
2. They consist of unwritten rules and legal norms.
3. Institutions exercise long-lasting impact on the behaviour of individuals (more on that in Stefanović, 2009, p. 16). In other words, institutions represent long-term, trans-generational phenomenon.

Given that they exert significant influence on the behaviour of agents, institutions must be incorporated in the economic analysis. New institutional economics is focused on explaining the origins, mechanisms of change of institutions as well as their effects on the economic process. Within the new institutionalism, special attention is devoted to the analysis of social institutions governing property relations between agents. Also, a stream of new institutional economics deals with the explanation of the companies, as a kind of institutional alternative to market mechanism.

2. Ownership Institutions and Economic Efficiency

The essential inspiration for new institutional economics was provided the Coase's research on industrial organization (Coase, 1937). One of the major problems within the neoclassical analysis is explanation of the existence of the companies. Neoclassical economics implies that the allocation of resources operates at the market, which performs this function efficiently. The question is, however, why then there are alternative allocative structures - firms. In addition, the structure of the firms is quite the opposite to that of the market - they are centralized, command and hierarchical structures (Coase, 1937, cited in: Jovanović, 2004).

Coase explains the existence of firms by the cost of using the market mechanism, related to the discovering of relevant prices, negotiating and concluding contracts. If these costs are too high, the market is being replaced by the firm as allocation mechanism (Jovanović 2004).

The economic process is understood here as a set of transactions between agents. The subjects of the transactions are not only goods and services but also property rights over them. Market exchange is therefore the exchange of property rights. Costs that are generated during this exchange are called transaction costs.

Coase established the relationship between property rights, transaction costs and resource allocation, which became known as the Coase theorem (Coase, 1960). The initial schedule of property rights over resources has no impact on the efficiency of resource allocation, if property rights are clearly defined and transferable, or if transaction costs are zero (Jovanović, 2004, p. 236). In other words, if property rights can be exchanged at no cost (transaction costs are zero), then they will be, regardless of its initial configuration, always ultimately arranged in a way that ensures optimal allocation of resources.

Message of the Coase theorem is unambiguous - the existence of transaction costs during the exchange of property rights may disturb the efficient allocation of resources. Neoclassical economics has ignored transaction costs, and according to its logic resources are always allocated in an optimal way. However, the fact is that, in the real economy, there are transaction costs, which has implications for the efficiency of resource allocation (Coase, 1988, p. 175). If there are transaction costs, then the ways in which property rights are regulated become important.

The function of regulation of property rights in the society is performed by property institutions. The relationship between property institutions, transaction costs and economic efficiency is the central preoccupation of the branch of institutional economics led by Alchian, Demsetz and Pejovich. This stream of institutional thinking studies alternative systems of property rights (different forms of ownership) and their impact on economic efficiency (Alchian, Demsetz, 1973).

Only stable, credible and fully protected property rights enable the efficient allocation of resources (Pejovich, 2001, p. 4). In the regime of fully protected property rights, individuals have clear authority over their resources. If property rights of all agents are well protected, then they can enter into transactions without fear that their access to their own resources will in some illegal way be affected. Safety in exchange for its part affects the reduction of transaction costs, and contributes to the optimal allocation of resources.

The optimal structure of property rights, which would allow the minimization of transaction costs, is identified as fully protected private property. The institutional structure of the society that would allow such ownership regime is based on the rule of law. This sort of socio-economic regime protects individuals from attacks on their property rights by ruling groups, the state, the predatory-minded agents and others.

Institutions should, therefore, be changed in the direction of this type of social structure (Pejovich, 2001).

3. Institutional Evolution and Economic History

In an effort to empirical verification of the influence of property rights institutions on economic efficiency of the society, North has conducted research in economic history of some Western countries (North, Thomas, 1973). This scientific enterprise was based on an assertion that economic development is a result of traditional developmental factors (technology, demographic potential), but is also essentially dependent on the subtle influence of the institutions of society, especially those that define property rights. The evolution of institutions shapes the ability of the society for the long-term growth. North comes to the conclusion that there was the asymmetric development of property institutions in different countries of the West. In the UK and the Netherlands systems of stable and well-protected private property rights were established, while in other countries inefficient forms of ownership dominated throughout economic history.

In order to explain such a trajectory of institutional evolution of western countries North introduces a distinction between formal and informal institutions (North, 1990, p. 3). Formal institutions are embodied in the legal system (constitution, laws), while informal institutions are of unwritten character (culture, tradition, customs and beliefs).

Informal institutions exert strong and firmly rooted influence on the behaviour of agents. Their impact on the agents is reflected in the existence of the so-called “mental models”, or their beliefs about how the environment is structured and what are acceptable and desirable modes of behaviour in society. Individuals, who live in a society, are exposed to the same cultural and historical influences. Therefore they will form the same mental models, which will strongly affect their behavior (Denzau, North, 1994). The problem is that in some societies, historical circumstances and cultural background generated informal institutions and modes of socio-economic thinking and cooperation that are not compatible with private property and a market economy.

If informal institutions, expressed through the prevailing mental models of individuals in a society, are hostile toward private ownership and similar arrangements, then latter institutions will not efficiently operate in such an environment. Even when private property and market norms are imposed by formal rules (constitutions, laws), informal institutions will for a long time impede the process of creating a capitalist ownership structure. The problem is further complicated by the fact that the state, as the entity responsible for the enforcement of property rights, is largely inert and ineffective in the process.

Resistance of informal institutions can explain the delay of certain western countries (France, Spain, for example.) in the historical process of development of capitalist property institutions. This model can also explain the current slow transition to a market economy of countries of Latin America and certain post-socialist economies (North, 1994).

4. The Theory of the Firm based on Transaction Costs

Another stream of new institutionalism is focused on the issues of the firms as non-market institutions. The leader of this research orientation, Williamson, explains the existence of firms through the concept of transaction costs. Similar to frictions in physical

systems, transaction costs hinder market mechanism. Transaction costs arising from disputes and conflicts between participants in the exchange, lead to delays, interruptions, etc. (Williamson, 1985, p. 1-2).

Transaction costs are divided into two groups. Ex ante transaction costs related to the activities of entering into contracts between agents. They include the costs of negotiating and concluding contracts. Ex post transaction costs are generated during the contract execution. Since it is almost impossible to cover all possible situations within the propositions of the contract, contracts are “incomplete”. If, during the execution of the contract, contingencies occur, agents bear certain costs related to interruptions, eliminating disputes, securing guarantees that parties will comply with contractual obligations etc. (Williamson, 1985, p. 21).

The level of transaction costs is determined by the characteristics of the transaction (Williamson, 1981, p. 1547-1551):

1. the specificity - one or both parties invest specific resources in order to perform the transaction;
2. frequency - doing business with the same supplier often reduces transaction costs, such as those pertaining to quality control;
3. uncertainty - with greater uncertainty in the exchange, contracts will have to be more detailed, which increases the relevant transaction costs.

The uncertainty in the exchange is the main source of transaction costs. It is generated by bounded rationality and opportunistic behaviour of agents. Agents strive for rationality, but they are only limitedly successful therein, because they cannot have all the relevant information. Thus, the rationality of agents is bounded. Bounded rationality opens space for opportunistic behaviour. In this context, opportunism is an attempt to realize one's own interests with the help of guile, through incomplete and distorted presentation of relevant information (Williamson, 1985, p. 47).

Limited rationality and opportunism increase the level of uncertainty in the exchange. Uncertainty makes transactions more “expensive” and discourages agents to participate in market exchange. The society still finds alternative, non-market institutions, to carry out the exchange, which, according to Williamson, represent so called “governance structures”. Governance structures reflect the efforts of the society to economize on transaction costs. The organizational forms of these institutions are firms. Due to their organizational structures, firms can successfully control the transaction costs. Specifically, within companies, the exploitation of knowledge is more economical, the opportunistic behaviour of agents is more efficiently controlled, information asymmetry is reduced, hence the uncertainty is lesser (Williamson, 1975, p. 40).

Williamson concludes that, in line with the economic circumstances, governance structures evolved, from the former unitary corporations toward contemporary decentralized multidivisional organization. Its modern offshoots are conglomerates and multinational companies.

It should be noted that within the new institutional economics, there are different explanations of the company as a non-market institution. Alchian and Demsetz explained the emergence of firms as the result of inability of the market to organize “team production” (Alchian, Demsets, 1972, cited in: Screpanti, Zamagni, 1995). In such a mode of production, markets do not provide enough information for measuring the contribution of individual factors of production on the basis of their marginal product. This motivates employees to behave opportunistically, through not investing enough efforts in production, thus reducing the efficiency of production. It is necessary, therefore, to introduce someone to oversee and control team members. However, a mechanism must be found to prevent the supervisors

from “tolerating” team members. The solution is to ascribe to the supervisor all the residual income, rest upon the remuneration of all factors of production. Since the opportunistic behaviour of team members reduces his income, the supervisor is strongly motivated to suppress it. The conclusion of this theory is that the most effective supervisor in fact is the owner of the company (Alchian, Demsetz, 1972).

Conclusion

The methodological framework of the mainstream economics is based on well-known and in academic circles widely accepted principles describing the economy as a closed system, with rational economic actors as the backbone of the theoretical architecture. Their decisions, guided by pulsating market prices, by definition, are optimal and lead to balancing the forces of supply and demand, which, in essence, define any economic situation. Such epistemological matrix, “liberated” from the contents not directly involved in the immediate process of market equilibration, has considerable analytical value, since it provides exemplary clarity, firmness of logical relations and undeniable suggestiveness in the consideration of economic phenomena. However, there is an increasing amount of accumulated evidence which testifies to the fact that this model of understanding the economy has reached its limits. There is increasingly less justification for an economic analysis that ignores the numerous and heterogeneous non-economic structures operating at all levels of the economic space. The limits of orthodox epistemological framework are comprehended in numerous research fields, including the problems of economic growth, technological development, innovation, financial systems and others. There is, therefore, in economic theory, a growing awareness of the importance of the institutional dimension of the economic mechanism. Perhaps the most significant reflection of the aforementioned trend in economic thought is the emergence of new institutional economics. This theoretical current of institutionalism seeks to bridge the shortcomings of neoclassical analytical framework, i.e. its insensitivity to the institutional structure. In this sense, while maintaining a general analytical orientation of neoclassical framework (equilibrium mechanism, scarcity of resources), this line of thinking modifies the principle of rational actors, and associates market coordination process with the exchange of property rights and transaction costs. Suboptimal definitions of property institutions generate transaction costs that impede and deform the optimal allocation of resources. Quality of specification of property rights depends on the way of articulating the rationality of actors in the economy, through the existing cultural-historical framework and socio-psychological context, embodied in informal societal institutions. Economic reality in every society, in accordance with the above-mentioned framework, can be regarded as an effort, joint or individual, spontaneous or organized, to find arrangements for economizing on transaction costs. New institutional economics showed significantly higher level of responsiveness to some important determinants of economic currents, which are not compatible with the widespread reasoning of the equilibrium type. This may have an impact on increasing the realism and usefulness of the prevailing model of study of economic reality.

References

- Alchian, A., Demsets, H. (1972) Production, Information Costs and Economic Organization. *American Economic Review*, 62(5), 777-795.
- Alchian, A., Demsets, H. (1973) The Property Rights Paradigm. *Journal of Economic History*, 33(1), 16-27.

- Coase, R. (1937) The Nature of the Firm. *Economica*, 4(16), 386-405.
- Coase, R. (1960) The Problem of Social Cost. *Journal of Law and Economics*, 3, 1-44.
- Coase, R. (1988) Notes on the Problem of Social Cost, in: Coase, R. (ed.) *The Firm, the Market and the Law*. Chicago University Press. Chicago.
- De Vroey, M. (2004) The History of Macroeconomics Viewed against the Background of the Marshal-Walras Divide. *History of Political Economy*, 36(5), 57-91.
- Denzau, A., North, D. (1994) Shared Mental Models: Ideologies and Institutions. *Kyklos*, 47(1), 3-31.
- Jovanović, A. (2004) Ronald Coase. *Ekonomski anali*, 161, 233-242.
- North, D., Thomas, R. (1973) *The Rise of the Western World: a New Economic History*. Cambridge University Press. New York.
- North, D. (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge University Press. Cambridge.
- North, D. (1991) Institutions. *Journal of Economic Perspectives*, 5(1), 97-112.
- North, D. (1994) Economic Performance through Time. *American Economic Review*, 84(3), 359-368.
- Pejovich, S. (2001) *The Economics of Property Rights Vol I*. Edward Elgar. Cheltenham UK, Northampton, USA.
- Screpanti, E., Zamagni, S. (1995) *An Outline of the History of Economic Thought*. Cambridge University Press. Cambridge.
- Stefanović, Z. (2009) *Institucionalistički pravac ekonomske misli*. Zadužbina Andrejević. Beograd.
- Weintraub, R. (2002) Neoclassical Economics, in: Henderson, M. (ed.) *The Concise Encyclopedia of Economics*. Liberty Fund Inc.
- Williamson, O. (1975) *Markets and Hierarchies*. Free Press. New York.
- Williamson, O. (1981) The Modern Corporation: Origins, Evolution, Attributes. *Journal of Economic Literature*, 19(4), 1537-1568.
- Williamson, O. (1985) *Economic Institutions of Capitalism*. Collier Macmillan Publishers. New York.

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SCIENTIFIC REVIEW ARTICLE
Received: November 05, 2014
Accepted: December 01, 2014

ANALYSIS OF SUSTAINABLE COMPETITIVENESS OF EUROPEAN COUNTRIES IN 2013

Abstract

The concept of sustainable competitiveness of a country is a newly created category by the World Economic Forum 2011. In the paper, an empirical analysis of sustainable competitiveness of European countries has been carried out, according to the World Economic Forum data for the year 2012-2013. The key research question regarding the trade-off between the Global Competitiveness Index (GCI) and the Sustainability-Adjusted Global Competitiveness Index (SCI) of European countries in 2013, has led to a negative answer, i.e., the empirical analysis did not confirm the negative relationship between these two phenomena.

Key words: *sustainable development, components of sustainable development, environment, competitiveness, sustainable competitiveness.*

JEL Classification: O440

АНАЛИЗА ОДРЖИВЕ КОНКУРЕНТНОСТИ ЗЕМАЉА ЕВРОПЕ У 2013. ГОДИНИ

Апстракт

Концепт одрживе конкурентности земље представља новокреирану категорију од стране Светског економског форума 2011. године. У раду је реализована емпиријска анализа одрживе конкурентности земаља Европе према подацима Светског економског форума за 2012-2013. године. На кључно истраживачко питање у вези постојања својеврсне погодбе (trade-off) између Глобалног индекса конкурентности (Global Competitiveness Index -GCI) и Глобалног индекса одрживе конкурентности (Sustainability-Adjusted Global Competitiveness Index -SCI) земаља Европе у 2013. години дошло се до негативног одговора, односно емпиријском анализом није потврђена негативна веза између ова два феномена.

Кључне речи: *одрживи развој, компоненте одрживог развоја, животна средина, конкурентност, одржива конкурентност.*

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Introduction

There is a great deal of concerns in studying of the country competitiveness phenomenon, starting with its conceptual determination. Somehow this is understandable, bearing in mind that we are dealing with the category which includes numerous economic characteristics subject to extremely dynamic and hardly predictable changes. Essentially, it is a multidimensional and relative concept (Spence & Hazard, 1998). This is simply because the key features of the phenomenon of competitiveness are changing at different times and circumstances. Thus, the phenomenon of competitiveness can be seen both in terms of time and of space i.e., countries or regions. In short, it is a dynamic concept, which forces economic actors to continuously think not only about their own roles, strengths and weaknesses and responsibilities, but also the strengths and weaknesses of other actors (Sirkin, Hamerling & Bgatacharya, 2008).

OECD defines competitiveness as the country's ability to produce goods and services that may be of exchange in global market, under free and fair market conditions, while simultaneously maintaining and expanding the real incomes of its people (OECD, 1996, p. 24). Some authors note that the country's competitiveness is its ability to generate economic growth and employment, with the manifestation of balance of payments imbalances (Fagerberg, 1998).

Over the past fifteen years notional determination of the complex of a country's competitiveness, has been complemented by various requirements of the paradigm of sustainable development. For example, the Union of Industrial and Employers Confederations of Europe notes that high standard of living, with a sustainable balance of payments reflects the country's competitiveness. The European Commission defines competitiveness as a sustainable growth in living standards of the country or group of countries, with the lowest possible level of involuntary unemployment (European Competitiveness Report, 2011; Rosamond, 2002).

The essential idea of the concept of sustainable competitiveness is the inclusion of social and environmental dimensions (Cvetanovic, et al. 2014) into the economic concept of competitiveness, which were not included in conventional considerations of the content of this category. In a word, the concept of sustainable competitiveness is trying to assess whether a country has the potential to be successful and to grow in the medium and long term (Balkyte & Tvaronavičienė, 2010), as well as to determine whether the process of developing its economy contributes to creating a model of society that is desirable in the long run. As a reminder, at the beginning of the previous century well-known German sociologist Max Weber lucidly remarked that the countries did not compete only in terms of products and services but also in terms of the education system and wide dominant value system (Weber, 1989).

The International Institute for Management Development has compiled a list of over 300 factors of competitiveness, and the country's position in terms of international competitiveness is determined by aggregating these factors. (IMD; 2005). Many of these factors are related to health, education, condition of the natural environment.

Since 2005, the World Economic Forum has based the analysis of competitiveness on the Global Competitiveness Index – GCI, which includes micro and macroeconomic foundations of the country's competitiveness. Competitiveness is defined as the set of institutions, policies and factors that determine the level of productivity of a country.

Beginning in 2011, parallel to data on global competitiveness this institution started to publish data – Sustainability-Adjusted Global Competitiveness Index – SCI. It should be noted that the GCI is predominately based on economic indicators and it is mostly about the competitiveness of countries seen through the prism of short and to some extent medium

term. Conversely, SCI represents a long-term view of the country's competitiveness. Sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations (World Commission on Environment and Development, 1987). The paradigm of sustainable development brings a man into its focus as well as meeting his current and future needs (Gladwin, et al., 1995).. During the last three decades, the concept of sustainability has been qualitatively significantly expanded. The paradigm of sustainability as a new philosophy of development in addition to economic and environmental requirements, takes into account the growing social demands (Messner, 1997). In this regard, an important question arises whether the requirements for an increase in the short term GCI are compatible with the requirement for continuous improvement of SCI? In other words, whether the promotion of sustainable competitiveness of European countries involves reducing the competitiveness understood exclusively as the economic context? The obtaining a competent answer to the question of how sustainability affects the competitiveness and economic activities, is in a function of recognizing tools for identifying strengths within which countries can increase sustainable competitiveness (Kotabe & Murray, 2004). More complete integration of the concept of sustainability is a target that the World Economic Forum aims at. This is because the concept of sustainability is in a center of the attention of policy makers, business leaders and the public in general.

The paper analyzed data for 34 European countries on competitiveness (GCI) and Sustainability-Adjusted Global Competitiveness Index (SCI) by the World Economic Forum, presented in the Global Competitiveness Index Report 2012-2013. The first part of the paper presents a short theoretical overview of concept and metrics of sustainable competitiveness of countries, the category newly created by the World Economic Forum. Empirical analysis of sustainable competitiveness of European countries in 2013 has been conducted in the second part of the paper. First, simple regression analysis examined the type and form of functional dependency between social and environmental pillars for all 79 countries covered by the Report. Correlation matrix was designed according to all available values of the indicators that made up the two aforementioned pillars of sustainability within the GCI framework in 2012-2013. They, the data for the European economies in a broader sense (the European economies in the first step included Russia and Turkey) were analyzed. Categorization of European economies is given at five potential groups:

- countries that have 15% or more higher rankings in terms of SCI than in terms of GCI,
- countries that have 5% to 15% higher rankings in terms of SCI than in terms of GCI,
- stabile countries with insignificant difference between SCI and GCI ($\pm 5\%$),
- countries that have 5% to 15% lower rankings in terms of SCI than in terms of GCI,
- countries that have over 15% lower rankings in terms of SCI than in terms of GCI,

By using a cluster analysis and bottom-up principle a grouping of 34 countries in Europe was made, according to the observed competitiveness variables. Then by using graphical analysis, the position and value of the sustainability pillars and key indicators of sustainable competitiveness of European countries divided into two groups were perceived. The first group includes countries that occupy leading positions based on the criterion of sustainable competitiveness (Austria, Denmark, Finland, Germany, the Netherlands, Norway, Sweden and Switzerland) and the second group includes countries that have recorded the lowest values of SCI in Europe in 2013 (Bulgaria, Croatia, Greece, Macedonia, Romania and Serbia).

1. Analytical framework for GCI and SCI

An attempt made by the World Economic Forum in order to adjust the indices of competitiveness of countries for 2011 and 2012 to the requirements of environmental and social sustainability, represents a significant contribution to the operationalization of the sustainable competitiveness concept. Sustainable competitiveness of countries is a new area of research, and it is quite certain that a good portion of the data relevant to the measurement of key categories is missing.

Figure 1: The SCI structure



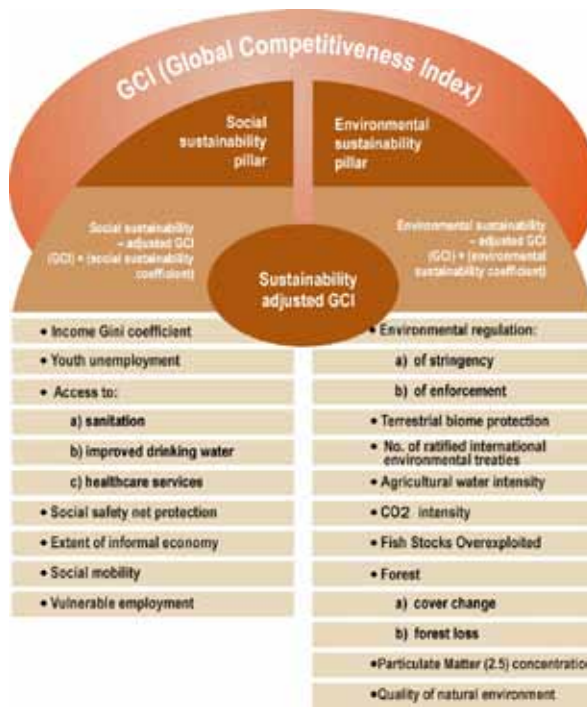
Modified according to: Global Competitiveness Report 2012-2013, World Economic Forum, p.8& p.52.

As it can be seen from Figure 1, the quantification of SCI starts from GCI, adjusted for factors that include social and environmental sustainability. The graph highlights the central position of competitiveness as a premise of economic prosperity of the country.

Achieving a certain level of economic prosperity is the essential material assumption of improving the living standards of the population in any country. In this procedure however, the ability of countries to generate prosperity for its citizens in a sustainable manner is assessed. In other words, competitiveness is a necessary, but is not a sufficient condition for prosperity of individual countries. Hence the need for an appropriate measure of competitiveness that is harmonized with social and environmental dimension of sustainability is more than obvious.

The methodology of measuring the Sustainability-Adjusted Global Competitiveness Index is based on the premise of linear interdependence between the index of competitiveness, environmental sustainability and social sustainability as dimensions of competitiveness. As a result, SCI is calculated as the average of the two indices adjusted for sustainability: social sustainability-adjusted GCI and environmental sustainability-adjusted GCI (Figure 2).

Figure 2: The SCI structures



Modified according to: *Global Competitiveness Report 2012-2013* (2012, p.52) and *Crotti*, (2012, August 27)

Figure 2 shows that the social and environmental dimensions of sustainable competitiveness are treated as independent adjustments for any country's performance in terms of the GCI. Aggregation leads to three possible outcomes: Environmental sustainability-adjusted GCI, Social sustainability-adjusted GCI and Sustainability-adjusted GCI which combines the dimensions of environmental and social sustainability.

Since there are no clear theoretical guidelines for assigning weights to individual elements, an equal weight is given to indicators within each pillar. Each pillar has been turned into an 'adjustment coefficient' with a range of 0.8 to 1.2, which is then used for adjusting GCI results up or down within this range. This results in the adjusted result which is at maximum 20% lower or 20% higher than the basic GCI score.

Due to the fact that some of the aspects of sustainability are estimated in the pillars of social and environmental sustainability, the results reflect the overall performance of all aspects instead of a particular element. In a sense, this means that poor performance in some aspects can be compensated with good results in some other areas. This can lead to counterintuitive results.

Instead of the 144 economies covered by the GCI, in analysis of the sustainable competitiveness by the World Economic Forum for 2013, there is a subsample of 79 countries. This is a first attempt to present the scope of sustainable competitiveness of countries that are preparing themselves for the future competitiveness in the long term.

Fairly speaking, there are many areas that are important aspects of the complex of sustainable competitiveness (inclusion of minorities, working environment, water pollution,

recycling, waste management, etc.), which are not yet included in the analysis due to a lack of relevant data. Therefore, their inclusion into analysis must be the goal of the Forum in the future.

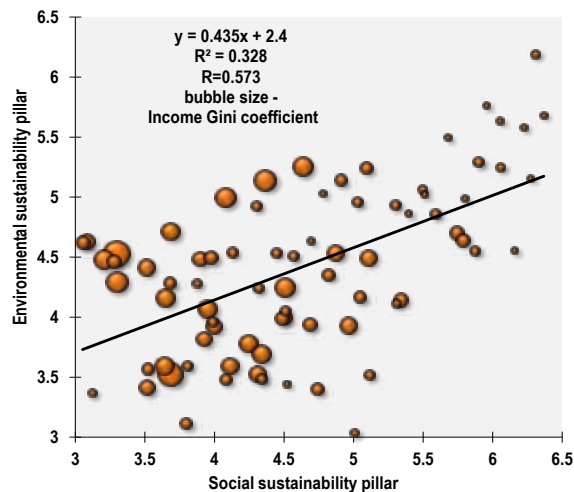
2. Empirical analysis of the sustainable competitiveness of countries in 2013

a. The analysis of the interdependence of the sustainability pillars and key indicators of the global sustainable competitiveness

For better understanding of the relational mechanisms of competitiveness in the broad sense (when, in addition to basic economic pillars that make GCI, indicators of sustainability are included), it is particularly important to examine the relationship between environmental and social sustainability. High levels of poverty and inequality can lead to unplanned urbanization, such as slums, where large segments of the population lack access to basic services. Such living conditions can have important consequences on the surroundings, including the destruction of the natural environment due to deforestation and pollution of water resources.

In this regard, Figure 3 shows a dispersion diagram for environmental and social pillars of sustainability, for 79 countries in the GCI 2012-2013 Report, which contains additional information about the Gini coefficient, represented by the size of the bubbles.

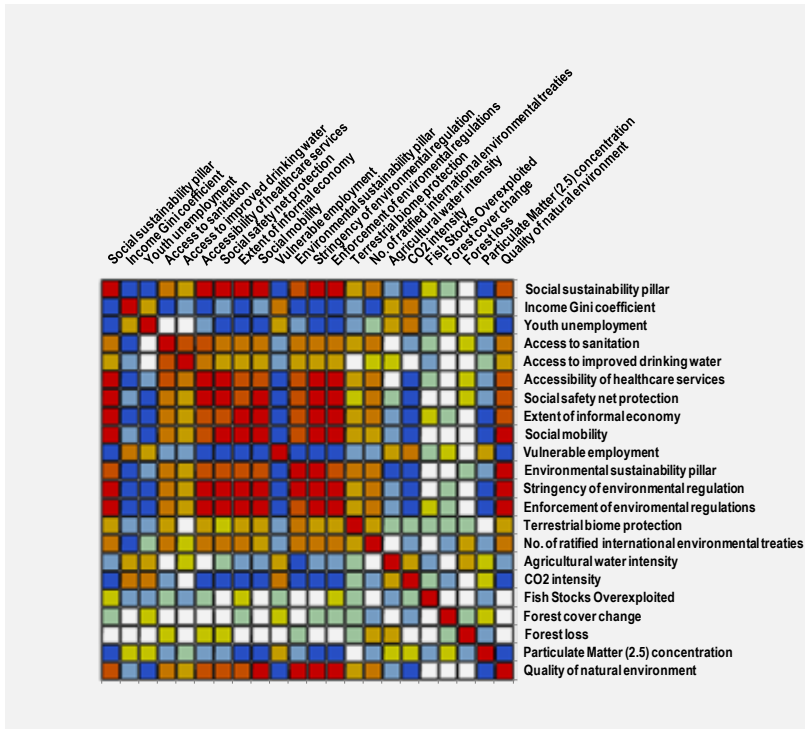
Figure 3: Dispersion diagram and linear form of interdependence between environmental and social pillars of sustainable competitiveness



Source: Authors' calculation based on Crotti (2012, August 27).

You can note a positive correlation among the observed variables. It is a positive and statistically significant interdependence (for a population of $n = 79$ and at a significance level of 0.01, limit value is $R = 0.303$). This analysis should be enhanced by including additional factors in considering the relationship between the observed variables (Figure 4).

Figure 4: Correlation matrix of all sustainability indicators (data for 79 countries in the GCI Report for 2012-13)



Source: Authors' calculation based on Crotti (2012, August 27).

(Dark shades indicate a positive correlation; bright shades indicate a negative correlation)

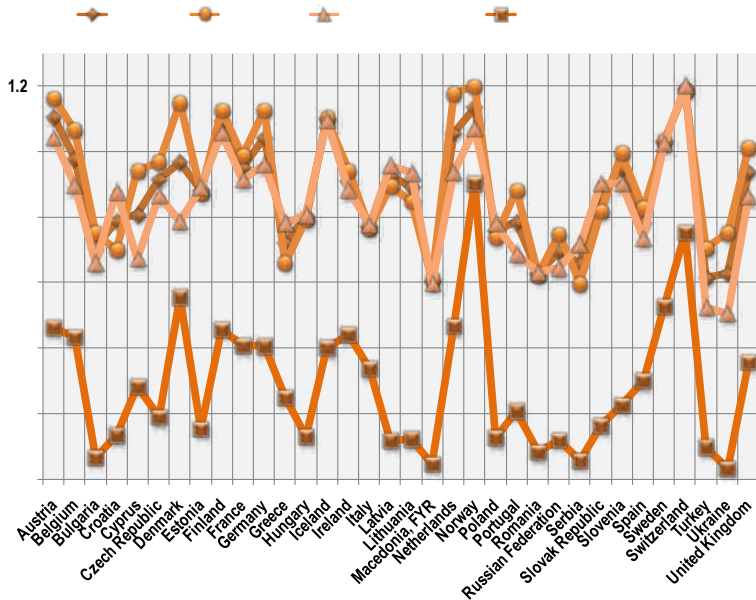
The correlation matrix was made for 79 countries, according to all the available values of the indicators that made up the two sustainability pillars within the GCI framework. Based on the matrix it is possible to conclude that in addition to the previously demonstrated positive correlation between the main pillars of a) social sustainability and b) natural environment sustainability, there is a highly significant correlation between individual indicators of both pillars. Further study of these relationships is beyond the scope of this paper, but it can be an issue for some future research.

The above data and diagrams indicate an evident positive interconnection between a) social component (represented by the social pillar of SCI) and b) environmental component of sustainable competitiveness (represented by the environmental pillar of SCI) at the global level. In other words, economies with high levels of social sustainability also have high levels of environmental sustainability (and vice versa).

b. Analysis of the relationship between SCI/GCI and GDP per capita of European countries

To shed additional light on the issue of trade-off between GCI and SCI in European countries, their relationships were analyzed. Figure 5 shows the ratio of SCI and GCI. There is also a curve representing the GDP per capita data. You can visually notice a positive relationship between these indicators in European countries.

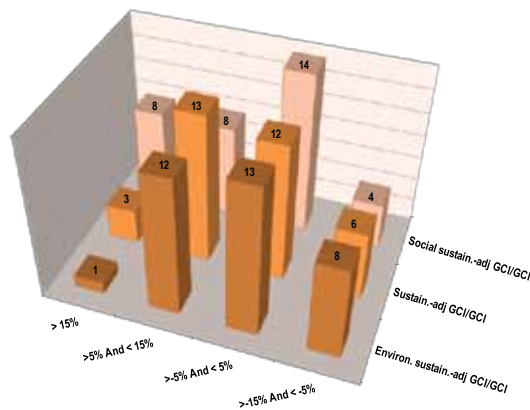
Figure 5: GDP per capita and sustainability-adjusted GCI/GCI, social sustainability/GCI and environmental sustainability/GCI ratios



Source: Authors' calculation based on Crotti (2012, August 27).

Figure 6 shows the distribution of the sustainability impact on the competitiveness of European countries through four categorized groups (significant positive impact – more than 15%, a positive impact – from 5 to 15%, a relatively neutral impact – from -5 to 5%, and a negative impact – from -5 to -15%). The impact is observed at the composite level through SGCI/GCI ratio (sustainability-adjusted GCI/GCI), as well as through relationship between GCI and its components: a) social sustainability and b) environmental sustainability.

Figure 6: The effect of sustainability on the competitiveness of European countries



Source: Authors' calculation based on Crotti (2012, August 27).

The following conclusions can be drawn:

- most countries are positioned between the relatively neutral or positive sustainability impact on competitiveness,
- significant positive environmental sustainability impact on competitiveness is achieved only in one country (Switzerland),
- significant positive social sustainability impact on competitiveness is achieved in eight countries
- significant number of European countries (16) achieves extremely positive or positive sustainability impact on the competitiveness, but still a larger portion of countries (18) is under relatively neutral or negative sustainability impact on the competitiveness.

As the metrics for sustainability impact within the GCI framework has been applied only since 2011, we believe that this is just a rough picture of the situation which will be sharpened in the coming period, by improving metrics for its monitoring. However, the above findings show a trend of increasing importance of sustainability for the global competitiveness of the economies.

c. Cluster analysis

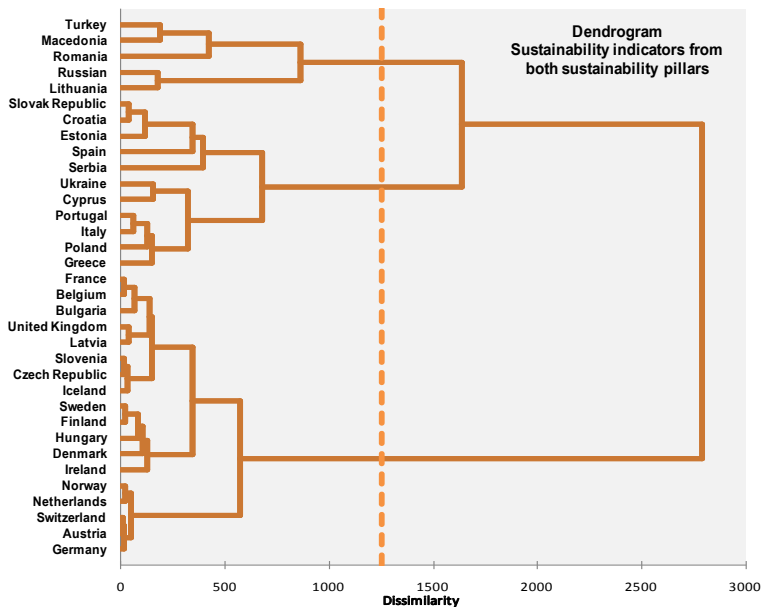
A cluster analysis of all European countries was carried out, in order to identify performance gaps in the sustainable competitiveness between the most competitive and the least competitive European countries.

In the process of clustering 34 countries according to the observed variables (all indicators of both sustainability pillars were observed), the bottom-up method was used by applying the agglomerative hierarchical clustering. First, each country was considered as a separate cluster (Figure 7). Then, based on values of the observed variables, they merged into pairs of clusters until all monitored entities were consolidated within a single cluster. In Figure 7, cluster dendrogram is formed by performing cluster analysis according to all available indicators data that make up the two sustainability pillars within the GCI framework (GCI Report for the year 2012-2013). At the dissimilarity level of around 1800, the diagram clearly shows two clusters that separate leading portion of European economies from the rest of the countries. At the dissimilarity level of around 1000, the rest of the European economies are divided into two clusters. At the dissimilarity level of around 200, also a leading cluster is divided into three sub-clusters; Norway, the Netherlands, Switzerland, Austria and Germany show the greatest uniformity, and these countries make up one of the three formed sub-clusters.

It would be interesting for some further analysis to study the separate cluster dendrograms formed on the basis of indicators of individual components of social sustainability and environmental sustainability.

However, in this paper cluster analysis was used to show a quite sharp polarization of European countries in terms of sustainable competitiveness.

Figure 7: Dendrogram by the sustainable competitiveness indicators of European countries



Source: Authors' calculation based on Crotti (2012, August 27).

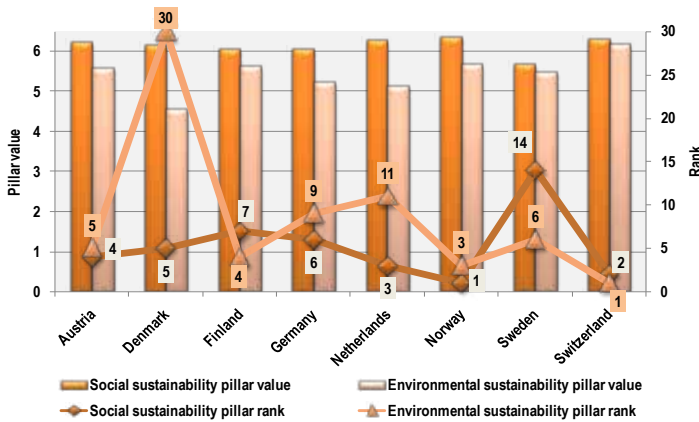
d. Graphical analysis of sustainable competitiveness of European leaders and the least competitive European economies

For a more detailed examination of the potential performance gap in sustainable competitiveness between European leaders and the least competitive European economies, a detailed graphical analysis of all sustainability indicators was carried out. Two groups of European countries were selected. The first group includes countries that occupy leading positions based on the criterion of sustainable competitiveness in Europe in 2013 (Austria, Denmark, Finland, Germany, the Netherlands, Norway, Sweden and Switzerland). The second group includes countries that have recorded the lowest values of the SCI in Europe in 2013 (Bulgaria, Croatia, Greece, Macedonia, Romania and Serbia).

Figure 8 illustrates the rank and value of the sustainability pillars of countries – European leaders. In some countries (Denmark is an extreme case) the imbalance of these pillars is very noticeable.

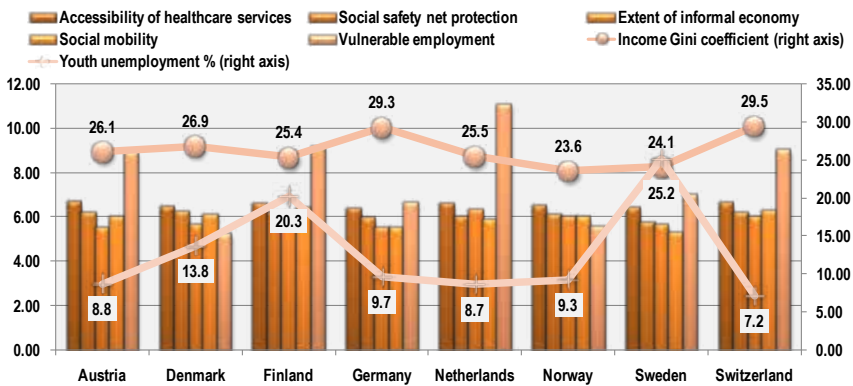
Switzerland ranks first in terms of sustainability-adjusted GCI, has a good performance in all aspects of sustainable competitiveness, and shows that there are no necessary compensatory relationships between environmental or social sustainability requirement and competitiveness requirement. Similarly, the Nordic countries are good at both dimensions, and Norway is the first in group with the highest score in both areas. These countries are very good in terms of the GCI value, which is adjusted for social sustainability (Norway, Denmark, Finland and Sweden have a score in the top 10 ranked economies).

Figure 8: Ranks and values of the sustainability pillars–European leaders



Source: Authors’ calculation based on Crotti (2012, August 27).

Figure 9: The basic parameters of social sustainability pillar for leading economies of Europe

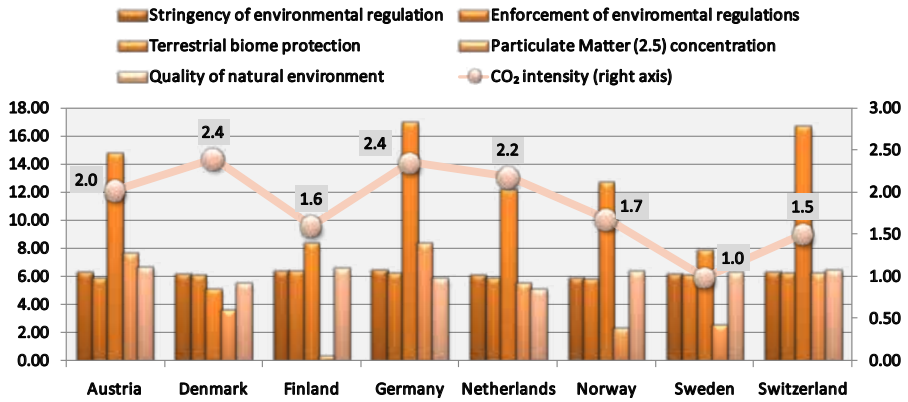


Source: Authors’ calculation based on Crotti (2012, August 27).

Figure 9 shows the key social sustainability indicators of the leading European economies. A larger portion of indicators is uniform, and it is quite logical due to cluster dendrogram shown in Figure 7. Sweden has a relatively high rate of youth unemployment (25.2%), which determines its somewhat lower performance.

Norway has the best Gini index, and also has a good performance (in the top 10) in terms of all social sustainability indicators. The Nordic countries also have good results in terms of environmental sustainability-adjusted GCI, but share a common problem related to overfishing and terrestrial biome protection (Figure 10).

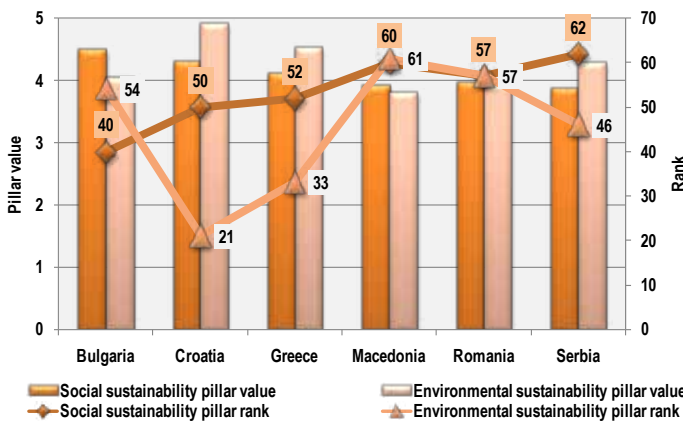
Figure 10: The basic parameters of environmental sustainability pillar for leading economies of Europe



Source: Authors' calculation based on Crotti (2012, August 27).

Figure 11 illustrates the relationship between rank and values of the pillars of social and environmental sustainability for the least competitive European countries covered by the GCI Report 2012-13.

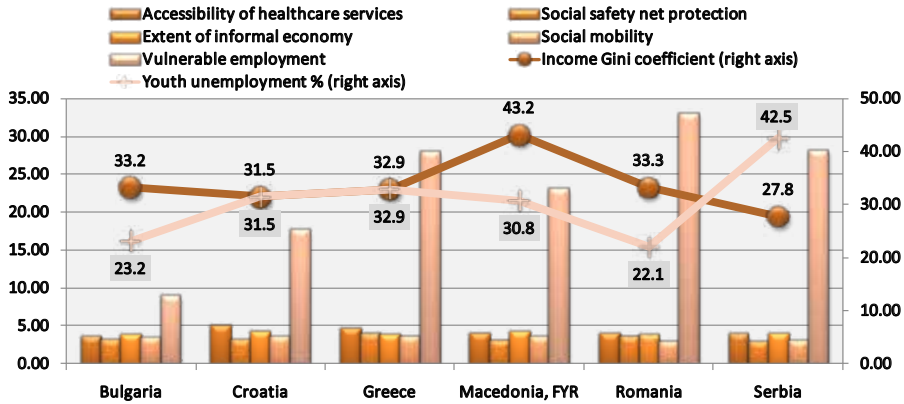
Figure 11: Values and ranks of the sustainability pillars for the least competitive European countries



Source: Authors' calculation based on Crotti (2012, August 27).

In some countries from this group the sustainability pillars imbalance is more emphasized than that of European leaders (Croatia and Greece, for example), while in others you can notice identical or similar positions of both of these pillars (Macedonia, Romania).

Figure 12: The basic parameters of social sustainability pillar for the least competitive European countries

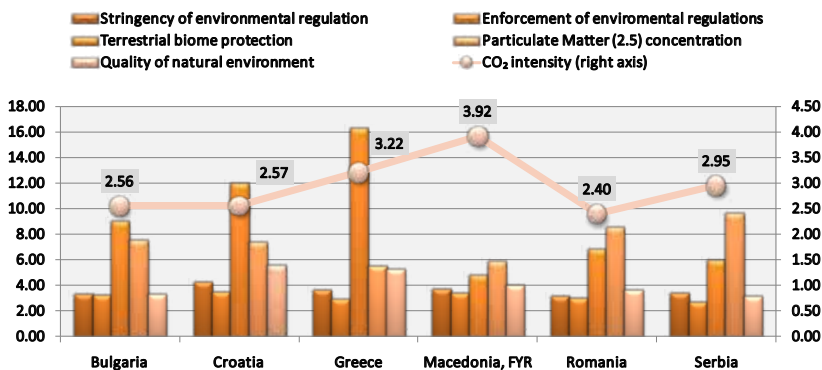


Source: Authors' calculation based on Crotti (2012, August 27).

Figure 12 presents the key social sustainability indicators of the least competitive countries of Europe. A larger portion of indicators is uniform, and it is quite logical due to cluster dendrogram shown in Figure 7. There is high rate of vulnerable employment, which is in all countries considerably higher than rate in the most competitive European countries (Bulgaria is an exception; this indicator in Bulgaria is at the average level of European leaders).

Figure 13 shows the key environmental sustainability indicators of the least competitive countries of Europe. Uniformity of a large portion of indicators can be observed. However, there is an extremely high CO₂ intensity rate, which tells us that their economic competitiveness is based mostly on dirty technologies.

Figure 13: The basic parameters of environmental sustainability pillar for the least competitive European countries



Source: Authors' calculation based on Crotti (2012, August 27).

In short, countries at the top of the rankings according to the GCI criterion also have the best performance according to the SCI criterion, i.e. the gap between the leaders and

the least competitive European countries is transferred from domain of the basic economic competitiveness to an extended domain of the sustainable competitiveness.

Regarding the results of the analysis at the level of individual indicators, there are exceptions such as the low rate of vulnerable employment, which in Bulgaria is at the level of EU leaders, or on the other hand, relatively high Gini coefficient of Germany and Switzerland, which is at the average level of the least competitive countries group.

3. Conclusion

It turns out that there is a significant compatibility between economic performance and achieved level of long-term sustainability of the economic systems in European countries. In other words, it turns out that there is no imperative of sacrificing the economic welfare in favor of long-term social and environmental sustainability. We can even say that the social efforts at improving social and environmental sustainability are rewarded with additional improvement in economic prosperity. The further question is how stable the process actually is in the long run and at a global scale, i.e. whether European countries maybe spill over their sustainable competitiveness to non-European economies, which could be a way for some further research on this topic.

The analysis revealed a positive correlation between GCI and SCI. In short, countries that are at the top of the rankings according to the GCI criterion are also the best in most of the environmental and social dimensions of sustainable competitiveness. This finding may be of use in creating and practical realization of sustainable development policy, as well as the policy of improving the competitiveness of European countries in the twenty-first century.

References

- Balkyte, A., & Tvaronavičiene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of “Sustainable competitiveness”. *Journal of Business Economics and Management*, 11(2), 341-365.
- Cvetanović, S. Despotović, D. Živković, Lj. Nedić, V. (2014) Environmental Dimension of Sustainable Competitiveness of Serbia and Selected European Countries. *Bulgarian journal of agricultural science* Vol. 20, no. 4, str. 767-778.
- European Competitiveness Report 2011, Luxembourg: *Publications Office of the European Union*, European Commission.
- Fagerberg, J. (1988). International competitiveness, *The Economic Journal*, Vol. 98, No 391, pp. 35-374.
- Gladwin, T. N., Kennelly, J. J., & Krause, T. S. (1995). Shifting paradigms for sustainable development: Implications for management theory and research. *Academy of management review*, 20(4), 874-907.
- IMD 2005. *World Competitiveness Yearbook 2005*. Lausaane: IMD.
- Kotabe, M., & Murray, J. Y. (2004). Global sourcing strategy and sustainable competitive advantage. *Industrial Marketing Management*, 33(1), 7-14.
- Messner, D. (1997). The network society: economic development and international competitiveness as problems of social governance (Vol. 10). *Psychology Press*.
- OECD 1996. Globalization and Competitiveness: Relevant Indicators, *STI Working Papers 1996/5*.

- Sirkin, H. Hamerling, J. Bgatacharya, (2008). *A. Globality, Competing With Everyne From Everywhere For Everything*, New York: Boston Consulting Group Inc.
- Spence, A. Hazard, H. 1988. *International Competitiveness*, Cambridge, MA: Ballinger.
- Crotti, R. (2012, August 27). Retrieved November 23, 2014, from http://www3.weforum.org/docs/CSI/2012-13/GCR_SCIDataset_2012-13.xlsx
- Rosamond, B. (2002). Imagining the European Economy: 'competitiveness' and the social construction of 'Europe' as an economic space. *New Political Economy*, 7(2), 157-177.
- The Global Competitiveness Report 2012-2013, (2012). Geneva: World Economic Forum.
- Weber, M. (1989). *Protenstantska etika i duh kapitalizma*, Sarajevo: Svetlost.
- World Commission on Environment and Development*, (1987). Our Common Future, Oxford: Oxford University Press.

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SCIENTIFIC REVIEW ARTICLE
Received: November 11, 2014
Accepted: December 01, 2014

CONTRIBUTION OF FOOD PRODUCTION SECTOR TO THE INCREASE OF EMPLOYMENT – COMPARATIVE ANALYSIS OF SLOVENIA, CROATIA, AND SERBIA²

Abstract

The processing sector in Serbia has not managed to consolidate even after more than a quarter century since the breakup of the former Yugoslavia. Food production in Serbia shares the fate of the entire production sector, as its integral part. Despite this fact, food production is more and more seen as the opportunity for increasing employment and the level of economic activity in Serbia. Especially after the introduction of EU sanctions by Russia, advocates of export of food products as the development opportunities for Serbia are growing louder. This made us pose the research question relating to whether economic growth in the area of food production has effects on employment level in Serbia? In searching for the answer to this question, we constructed a sample of the 20 largest food producers in Serbia and investigated the correlation between the level of economic activity in these companies and the number of their employees. We did the same for the 20 largest manufacturers in Slovenia and Croatia, and tested the hypothesis about the food production as the development opportunity.

Key words: the food production sector, employment, economic activity and the regression model.

JEL Classification: J23, E24

ДОПРИНОС СЕКТОРА ПРОИЗВОДЊЕ ПРЕХРАМБЕНИХ ПРОИЗВОДА ПОВЕЋАЊУ ЗАПОСЛЕНОСТИ – КОМПАРАТИВНА АНАЛИЗА СЛОВЕНИЈЕ ХРВАТСКЕ И СРБИЈЕ³

Апстракт

Прерађивачки сектор у Србији и након више од четврт века од распада бивше СФРЈ није успео да се консолидује. Производња прехранбених производа у Србији дели судбину читавог прерађивачког сектора, као њен саставни део. Упркос овој чињеници у последње време се све више говори о

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² The paper is part of the research within the Project No179066, funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia

³ The paper is part of the research within the Project No179066, funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia

производњи прехрамбених производа, као шанси за повећање запослености и нивоа економске активности у Србији. Нарочито након увођења санкција ЕУ од стране Русије, заговорници извоза прехрамбених производа, као развојне шансе за Србију су све гласнији. Ово је утицало да поставимо истраживачко питање да ли раст економске активности у области производње прехрамбених производа има ефекте на ниво запослености у Србији? У тражењу одговора на ово питање конструисали смо узорак од 20 највећих произвођача прехрамбених производа у Србији и пратили везу између нивоа економске активности у тим предузећима и броју ангажованих радника. То исто смо учинили и за 20 највећих произвођача у Словенији и Хрватској и тестирали хипотезу о производњи прехрамбених производа као развојној шанси.

Кејвордс: *сектор производње прехрамбених производа, запосленост, економска активност и регресиони модел.*

Introduction

Food industry, with a large number of activities that make it, employs a significant part of labour, while at the same time playing the role of the multiplier of employment at the national level. In fact, it encourages the development of agriculture and other industries that precede it in the production cycle, and enables the development of underdeveloped rural and urban areas – through the establishment of small and medium enterprises. In this context, we the opportunity for the development of the local economy through the development of the food industry is recognised. Accordingly, we defined the hypothesis on the basis of which the growth of economic activity in the sector of food production, measured by the level of operating revenue, may affect the growth of the number of employees engaged in this sector. The starting premise is that a greater scope of food production activities can increase the level of employment. In seeking answers to the research question, we made three samples. The first consists of the 20 largest food producers in Slovenia. The second consists of the 20 largest food producers in Croatia, whereas the third includes 20 largest food producers in Serbia. Based on the defined samples, we conducted research of the correlation between the scope of business activities and number of employees engaged.

The structure of the work has been adapted to the defined research subject and the hypotheses. The content of the first part involves the theoretical background related to the place and role of food production in the processing sector and the economy as a whole. The second part presents the methods and results of research. Finally, some concluding remarks are presented.

1. Theoretical background

Literature knows various ways of defining food processing activities. Many traditional definitions emphasise the link between food processing and food preservation, and this dimension is one of the most important reasons for food processing. Back in 1966, Lodge and Jones defined the food industry as a set of production, distribution, and marketing activities related to food production (Lodge G. & Jones C. 1966). One

of the basic definitions identifies this phenomenon as the conversion of raw materials or ingredients into a food product. A more complete, however, is the definition given by Connor, which includes initial and final stage of food processing, as well as inputs used. According to him, “the commercial food industry” is the branch of production which starts with animal, vegetable, or marine raw materials, and then transforms them into food or edible products by using labour, machinery, energy, and scientific knowledge (Heldman D. & Hartel R, 1999). According to Wilkinson, the food industry can be viewed as a set of activities that are performed after the harvest and that add value to agricultural products prior to marketing. In addition to the primary processing of food raw materials, food industry includes the final food production, preparation, and packaging of fresh products (McCullough E.B. et al. 2008).

The food industry does not include one sector which produces series of mainly similar products. On the contrary, it is the industry that is broad and diverse, both in terms of its structure and in terms of products produced. The basic characteristics of the food industry are:

1. A large number of small and medium enterprises operating in a highly competitive environment,
2. Rapid changes of production lines,
3. Low profit margins,
4. High use of physical work in often unattractive environment,
5. Lack of understanding of automation (Caldwell D. et al. 2009).

One of the common characteristics of the food industry of almost every country is diversified nature of the sector, with a high share of small and medium enterprises. According to the research conducted by the Food Industry Association of the European Union and the United Nations Environment Programme, in 1992, at the level of the European Union, as much as 92.4% of companies in the food industry were small and medium enterprises. On the other hand, larger companies with over 100 employees accounted for 70% of the turnover of the sector. However, at the beginning of the third millennium, we see a growing trend of association of companies within the food industry, as well as the trend of steady growth in the number of large companies in this sector in many countries (the EU and the UN Environmental Programme, 2002).

The food industry is one of the most important branches of most of the member states of the European Union, and, as such, plays a central role in the processing of agricultural raw materials and food supplies. This branch of the processing industry is traditionally viewed as a sector with low intensity of research. However, innovation and research in the food industry should be encouraged because they are of immeasurable importance for companies belonging to this industry, which can use them to stand out from the competition and meet consumer expectations. The introduction of functional and organic food in this sense is gaining in importance, the increased demand for which being the result of high health care costs (Bigliardi B. & Galati F. 2013).

Ettlie sees the space for the development of the food industry in the fact that the food arouses attention at the national and international level as a constant problem and the key precondition of quality life (Ettlie J. 1983). In this regard, the food industry is a highly promising branch of processing industry, which, with the help of intensive investment, can be a pillar of economic development and a source of increasing employment. Rekha and Poonam point to the importance of the food industry for overall economic development, while noting that this sector represents a link between industry and agriculture. Food industry contributes to the diversification and commercialisation of farming, increase of farmers' income, creation of a market for export of agricultural food, as well as creation

of more job opportunities (Rekha K. & Poonam K. 2011). The importance of processing industry and food production, as well as their impact on employment, has been the area of interest of economists for a number of decades. The food industry is one of the biggest employers worldwide. For example, in Australia, the food industry employs one out of five employees in the sector of production activities. The food industry has a multiplier effect on employment. It is estimated that each job in the European sector of soft drinks generates additional ten jobs (including suppliers, retailers, and others). A similar effect is present in the food industry (EU and UN Environmental Programme 2002).

Most authors find that food processing companies are usually the main source of employment in rural economies. The fact is that many activities that involve food processing are carried out in the villages, which significantly contributes to employment of the rural population. In a survey conducted in 1987, which focused on the production of soybean and soybean products, a group of authors (Hayami, Kawagoe, Marooka, Siregar), pointed to a great importance of processing of agricultural products for income generation in local communities. This study also recognised the importance of these activities for the equalisation of income distribution, through increasing employment and the share of income that belongs to work. Based on the research, the authors also recognised the impact of the processing industry on the economy as a whole. Specifically, these activities can be used as a tool to alleviate poverty and inequality in rural areas, especially in developing countries (Hayami, Y. et al., 1988). However, some research (McCullough, Pingali, Stamoulis) indicate that the food industry is also a key component of production and employment even in the most developed countries, with important opportunities for employment and business start in the sector of small and medium enterprises. However, employment in this sector in recent years shows a declining trend, as a consequence of efforts to increase productivity, rather than offshoring practices (McCullough E.B. et al. 2008).

The importance of the food industry as a source of employment can be understood if we consider its impact on the development of other sectors of the economy. Numerous studies indicate considerable contribution of the food industry to the growth in many other sectors, especially agriculture. For example, in the European Union, the food industry sector is a customer of over 70% of the agricultural products from the European Union markets. Furthermore, in Canada, 40% of agricultural production is exported in raw form, 15% is either sold directly to consumers or sold for non-food purposes, and 45% is sold as processed food within the food industry. On the other hand, the food industry emerges as the important energy user, and as a major purchaser of equipment, technologies, and new products. This sector is also a major customer of the packaging industry and transport services, and it invests in transport infrastructure, networks, and vehicles. At the end of the supply chain, the food industry is one of the largest users of advertisements and advertising, and plays a key role in supplying the retail sector. World trade in the field of agri-food products is steadily increasing. In this regard, the share of processed food in the trade of agri-food products is also growing (EU and UN Environmental Programme 2002). In this way, the food industry is the driver of employment in a number of sectors and industries.

Some authors (Caldewell, Davis, Massey, Gray) believe that in the years to come, the number of people willing to work in the field of food industry for the current wage level will decline, so that this sector will have to change in order to survive. In fact, except for a few multinational companies, companies in the food industry are characterised by a low level of research and development activities, insufficient capacity utilisation and maintenance of advanced automatic equipment, as well as underdeveloped information technology. Faced with these problems, the food industry has identified the introduction

of automation as a crucial goal, with the purpose of improving production efficiency, reducing losses at all levels, improving hygiene standards, improving the consistency of product quality, improving working conditions in order to retain high-quality staff (Caldwell D. et al 2009). These means that innovation capacity of food production is also important as well as for other business sector (Cvetanovic et al.).

One of the key problems of the food industry is the low overall level of high-growth entrepreneurship, which indicates weak dynamic capabilities of companies within this industry. Policy makers can promote training in the field of management in companies within the food industry which record poor performance, particularly in family companies, which often have relatively closed methods of recruitment for senior management positions. Furthermore, it would be reasonable if the current agricultural producers and food processing companies undertook more value-added activities, to avoid competition based solely on price. To ensure this, a number of food processing companies must achieve higher level of innovativeness. Bearing in mind the importance of engaging the end user as a source of innovation, policy makers should encourage closer relationship between the companies and major end users, such as supermarkets, which play a key role in organising the food industry. Similarly, farmers should encourage the development of closer relations between them and food and beverage processing companies (Alsos, G.A. et al. 2011).

We see that most of the presented literature sources indicate unsuspected importance of the processing and food industry for encouraging employment and the overall economic development.

2. Research method and results obtained

In order to search for answers to the posed research question, i.e. whether the increase in economic activities in the food production can contribute to employment growth, we will use a simple regression model. For this purpose, we selected 20 largest food producers in the three countries, Slovenia, Croatia, and Serbia. The criterion for the selection of the largest companies was net operating revenue in one calendar year. In order to ensure availability and comparability of data, 2012 was taken as the calendar year for observation. Based on the available data (Tables 1, 3, and 5), we constructed a regression model of functional dependency between operating revenue and the number of employees engaged in each country. The first analysed country was Slovenia.

Table 1. Operating revenue in thousands of euros and the number of employees in the 20 largest food producers in Slovenia

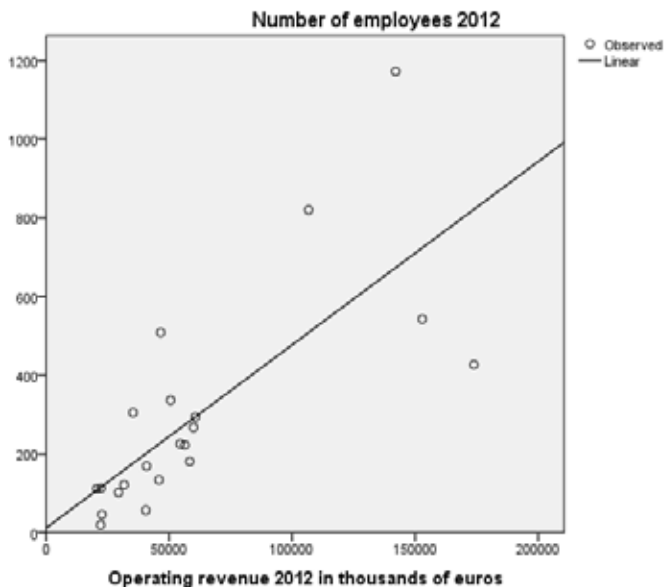
No.	Company	Operating revenue in thousands of euros in 2012	Number of employees in 2012
1	Droga Kolinska	173.873	427
2	Ljubljanske mlekarne	152.880	543
3	Perutnina Ptuj	142.062	1.172
4	Žito	106.694	820
5	Mlekarna Celeia	58.386	181
6	Fructal	50.599	337

7	Jata Emona	54.490	226
8	Panvita	56.384	223
9	Celjske mesnine	59.908	268
10	Mlinotest živilska	46.568	509
11	Kras	45.864	134
12	Pomurske mlekarne	40.820	169
13	PIVKA	35.328	305
14	Panvita Kmetijstvo	40.524	57
15	Tovarna Olja	29.434	102
16	Meso Kamnik	31.717	122
17	Kras Meso	22.155	20
18	Mesnine dežele kranjske	22.688	46
19	INCOM	20.578	112
20	Mercator-emba	22.349	113

Source: Official financial statements for 2012

Based on the available data, we constructed a simple regression model for Slovenian food producers (Figure 1). The elements of the model are shown in Table 2.

Figure 1. Dispersion diagram of operating revenue in thousands of euros and the number of employees in the 20 largest Slovenian food producers



Source: Authors, on the basis of Table 1

Table 2. Model Summary and Parameter Estimates

Dependent Variable: Number of employees 2012

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	,553	23,469	1	19	,000	11,878	,005

The independent variable is Operating revenue 2012 in thousands of euros.

Table 2 points to the conclusion that in the case of food producers in Slovenia, the regression model is: $y=5*10^{-6}x+11,878$, where y is the number of engaged employees, while x is the operating revenue in euros in the observed year. What we also conclude is the fact that this regression model is applicable in 55.3% of cases, i.e. the coefficient of determination is 0.553 with a significance level of less than 0.05. The correlation coefficient between the operating revenue and number of employees is 0.743. Therefore, it is certain that in the case of Slovenian food producers, there is a statistically significant relationship between the growth in operating revenue and an increase in the number of engaged employees.

The next economy in the focus of our analysis was the Republic of Croatia. The results of the observation of the Croatian economy are shown in Table 3.

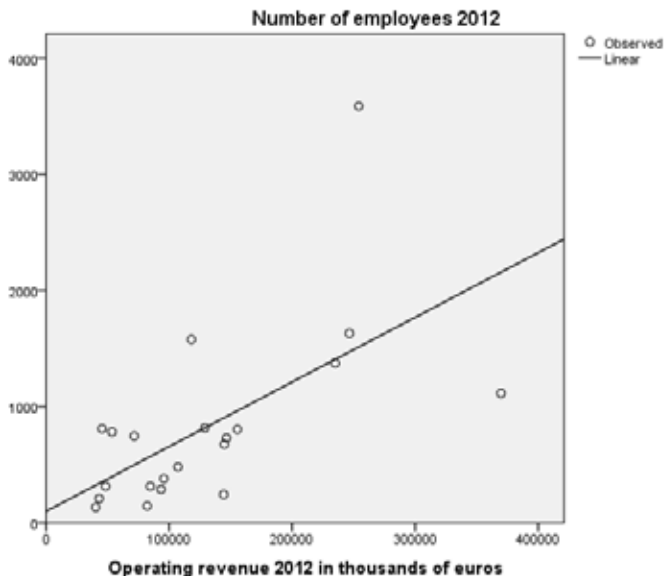
Table 3. Operating revenue in thousands of euros and the number of employees in the 20 largest food producers in Croatia

No.	Company	Operating revenue 2012 in thousands of euros	Number of employees 2012
1	Vinidija	369.771	1.116
2	Podravka	254.138	3.587
3	Dukat	235.033	1.375
4	PIK Vrbovec	246.495	1.633
5	Ledo	155.489	806
6	Zvijezda	144.892	675
7	MI Braća Pivac	146.640	731
8	Kraš	118.110	1.580
9	Viro tvor. Šećera	144.341	245
10	Franck	107.156	481
11	Sladorana	84.695	315
12	Gavrilović	71.614	747
13	P.P.K.	95.694	382
14	Granolio	82.179	145
15	Tvornica šeć. Osjek	93.467	289
16	Danica	53.597	783
17	Cedevita	48.384	315
18	Meggle Hr	43.164	210
19	Perutnina	45.508	811
20	KIM	40.311	134

Source: Official financial statements for 2012

Based on the available data, we constructed a simple regression model for Croatian food producers (Figure 2).

Figure 2. Dispersion diagram of operating revenue in thousands of euros and the number of employees in the 20 largest Croatian food producers



Source: Authors, on the basis of Table 3

The elements of the model, in accordance with the needs of Croatian food producers are shown in Table 4.

Table 4. Model Summary and Parameter Estimates

Dependent Variable: Number of employees 2012

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	,373	11,287	1	19	,003	99,747	,006

The independent variable is Operating revenue 2012 in thousands of euros.

Table 4 points to a conclusion that in the case of food producers in Croatia, the regression model is: $y=6 \cdot 10^{-6}x+99,747$, where y is the number of engaged employees, while x is the operating revenue in euros in the observed year. What we also conclude is the fact that this regression model is applicable in 37.3% of cases, i.e. the coefficient of determination is 0.373 with a significance level of less than 0.05. The correlation coefficient between operating revenue and number of employees is 0.610. Therefore, it is certain that in the case of Croatian food producers, there is a statistically significant relationship between the growth in operating revenue and an increase in the number of employees engaged.

The last but not least in the focus of our analysis was the situation in food production in Serbia. The results of the observation of the Serbian economy are shown in Table 5.

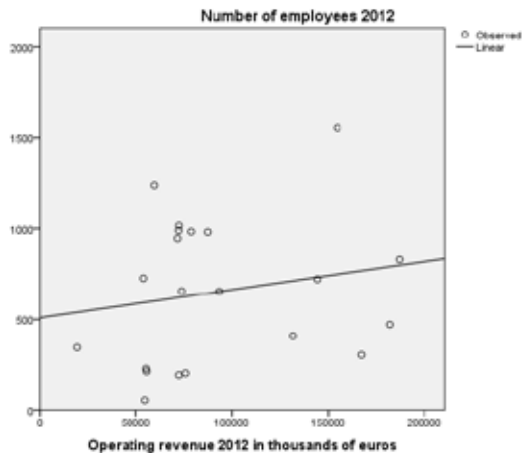
Table 5. Operating revenue in thousands of euros and the number of employees in the 20 largest food producers in Serbia

No.	Company	Operating revenue 2012 in thousands of euros	Number of employees 2012
1	Sunoko	182.108	471
2	Imlek	187.107	828
3	Victoriaoil	167.255	304
4	Dijamant	144.336	720
5	Matijevic	154.664	1.553
6	Sojaprotein	131.444	408
7	Grand prom	75.831	204
8	TE-TO	72.491	194
9	Frikom	87.185	981
10	Koncern Bambi	72.351	990
11	Nectar	73.913	654
12	Crvenka	55.581	214
13	Soko Štark	71.811	946
14	Marbo product	78.727	983
15	Swisslion	72.518	1.016
16	Carnex	59.524	1.238
17	Gebi	55.317	229
18	Konzul	54.673	53
19	Neoplanta	53.972	725
20	Nestle Adriatic	19.302	345

Source: Official financial statements for 2012

Based on the available data, we constructed a simple regression model for Serbian food producers (Figure 3).

Figure 3. Dispersion diagram of operating revenue in thousands of euros and the number of employees in the 20 largest Serbian food producers



Source: Authors, on the basis of Table 3

The elements of the model, in accordance with the needs of Serbian food producers are shown in Table 6.

Table 6. Model Summary and Parameter Estimates

Dependent Variable: Number of employees 2012

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	,033	,657	1	19	,428	509,127	,002

The independent variable is Operating revenue 2012 in thousands of euros.

Table 6 points to a conclusion that in the case of food producers in Serbia, the regression model is: $y=2*10^{-6}x+509,127$, where y is the number of engaged employees, while x is the operating revenue in euros in the observed year. What we also conclude is the fact that this regression model is applicable in 3.3% of cases, i.e. the coefficient of determination is 0.033 with a significance level of less than 0.05. The correlation coefficient between operating revenue and number of employees is 0.183. Therefore, it is certain that in the case of Serbian food producers, there is no statistically significant relationship between the growth in operating revenue and an increase in the number of employees engaged.

3. Conclusion

On the basis of the research, we can conclude that the growth of economic activity in the sector of food production has different effects on the level of employment in Slovenia, Croatia, and Serbia. In the case of Slovenia and Croatia, we can conclude that the increase in operating revenue in companies engaged in the food production has an impact on increasing the number of hired workers, and hence employment. Unfortunately, in the case of Serbia, it can be seen that there is no correlation between operating revenue and the number of employees in the food production sector. Additionally constructed regression models that would link the two phenomena would be applicable only in 3% of cases in the analysed sample. In other words, in the sample of the largest food producers, there is not a single company in which the relationship between the level of economic activity and the number of workers engaged could be modelled. The obtained results have opened numerous other research questions related to the dilemma of whether food production is really Serbian development opportunity or just a marketing gimmick of political elite.

References

- Alsos G.A., Carter, S., Ljunggren, E., Welter, F., (2011) “The Handbook of Research on Entrepreneurship in Agriculture and Rural Development“, Edward Elgar Publishing, USA.
- Bigliardi, B., Galati, F., (2013) “Models of adoption of open innovation within the food industry“, *Trends in Food Science & Technology*, 30(1) pp. 16-26.
- Caldwell, D., Davis, S., Massey, M. R., Gray, J., (2009) “Automation in Food Processing“, Springer Handbook of Automation.

- Confederation of the Food and Drink Industries of the EU and United Nations Environment Programme (2002) „Industry as a Partner for Sustainable Development: Food and Drink“, [www publication available at http://apps.unep.org/publications/pmtdocuments/-Industry%20as%20a%20Partner%20for%20Sustainable%20Development%20_%20Food%20and%20Drink-2002172.pdf] accessed on 10 October 2014
- Cvetanovic, S., Mladenovic, I., and Nikolic, M., (2011) 35. “Teorijske osnove koncepta inovacionog kapaciteta privrede”, *Ekonomika*, LVII(4), pp 14-23.
- Ettlie, J., (1983) “Policy implications of the innovation process in the U.S. food sector“, *Research Policy*, Volume 12, Issue 5, 239-297.
- Hayami, Y., Kawagoe, T., Marooka, Y., Siregar, M., I (1988) “Income and Employment Generation from Agricultural Processing and Marketing: The Case of Soybean in Indonesia”, *Agricultural Economics*, 1 (4), pp. 327-339.
- Heldman, D., Hartel, R.,(1999) “Principles of Food Processing“, Aspen Publishers, United States.
- Lodge, G., Jones, C., (1966) “Food Processing – Key to Economic Development“, *Harvard Business Review*, 44(5), pp. 1-15.
- McCullough, E.B. (ed.); Pingali, P.L. (ed.); Stamoulis, K.G. (ed.) (2008) “The transformation of agri-food system: globalisation, supply chains and smallholder farmers“, FAO/Earthscan, Roma, Italy.
- Official financial statements for 2012 for 60 companies from Serbia, Croatia and Slovenia.
- Rekha, K., Poonam, K., (2011) “Managing Indian Food Processing Industry in Competitive Business Environment“, *Asia Pacific Journal of Research in Business Management*, 2 (8), pp. 214-225

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SCIENTIFIC REVIEW ARTICLE
Received: August 03, 2014
Accepted: October 12, 2014

INSURANCE DISTRIBUTION CHANNELS IN SERBIA

Abstract

Starting from 90s of the last century there are changes in the insurance industry. The manner of delivery of insurance products is changed by the development of technology and in accordance with clients' needs and wishes, which means sales of insurance with complete financial service. Insured, i.e. contractor of insurance services must be in the center of all activities of insurer. Fast and fair discharge claim or amount insured is the main factor which creates trust, certainty and satisfaction of the insured. In the conditions of numerous competitions in the insurance market, changed attitude of consumers and development of technology, distribution channels of insurance products are of extraordinary significance for successful business of insurance companies. Sales are one of basic functions in an insurance company. Adapting to the market conditions, insurance companies change the traditional manner of operation by accepting new sales channels. Specifically, this means innovation of insurance product distribution network in compliance with the legislation, in terms of different forms of cooperation of insurance companies with financial institutions. Primarily, the insurer must direct sales of services to those areas and sales channels which will be optimal for the company. In the present paper, we analyze institutional regulations of insurance in Serbia, distribution network of insurance sales and value of insurance service.

Key words: *insurance companies, distribution channels in insurance, insurance regulations, insurance premium, insurance brokers, insurance agents.*

JEL Classification: G22, I13, G18.

ДИСТРИБУТИВНИ КАНАЛИ ОСИГУРАЊА У СРБИЈИ

Апстракт

Почев од 90-их година прошлог века долази до великих промена у индустрији осигурања. Мења се начин испоруке производа осигурања развојем технологије и у складу са потребама и жељама клијената, што подразумева продају осигурања са комплетном финансијском услугом. Осигураник, односно уговорач услуга осигурања, мора бити у средишту свих активности осигураваача.

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Брза и правична исплата одштете или осигуране своте, главни је фактор који ствара поверење, сигурност и задовољство осигураника. У условима бројније конкуренције на тржишту осигурања, измењеног става потрошача и развоја технологије, канали дистрибуције производа осигурања су од изузетног значења за успешно пословање осигуравајућих друштава. Продаја је једна од основних функција у друштву за осигурање. Прилагођавајући се тржишним условима, осигуравајућа друштва мењају традиционални начин рада прихватањем нових канала продаје. Конкретно, то подразумева иновацију дистрибутивне мреже производа осигурања уз поштовање законске регулативе, у смислу различитих облика сарадње осигуравајућих друштава са финансијским институцијама. Пре свега, осигураваач мора усмерити продају услуга на она подручја и продајне канале који ће за друштво бити оптимални. У овом раду анализирамо институционалну регулативу осигурања у Србији, дистрибутивну мрежа продаје осигурања и вредност услуге осигурања.

Кључне речи: осигуравајућа друштва, дистрибутивни канали осигурања, регулатива осигурања, премија осигурања, посредници у осигурању, заступници у осигурању.

Introduction

Business insurance companies in the financial market involves meeting the needs of different and new clients, strengthening and development of competition, reducing costs in order to gain advantages, superiority and increase profits. Serbian insurance market seems more competitive insurance companies that offer and sell the same services. That is being the case, the insured can choose between multiple bidders the same insurance. The most common criteria by which the insured decides to certain insurers in terms of low standard of living is the cost of insurance even though it is not the only criteria that a potential insured must bear in mind.

This research allows the presentation of different distribution channels in Serbia, as well as proposed guidelines for the future development of distribution channels. The general social objective of this research to understanding the general conditions prevailing in the insurance market, as well as the ways in which insurance companies distribute their services. In addition, the starting points of the research are of legal norms or regulations to guarantee the fulfillment of the obligations assumed risks. Attention should be paid to the new entities in the insurance market with profit motivation devalue the institution of insurance, the conditions when there is no legal framework for the protection of property of citizens, more effective improvement loans, raising funds, capital allocation and social welfare component.

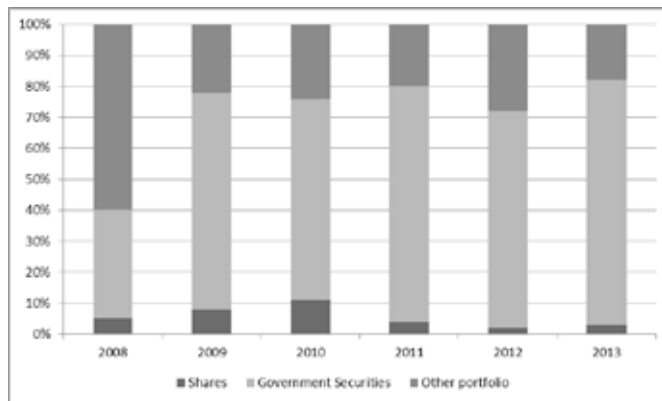
1. Institutional insurance regulation in serbia

Primal form of regulation of insurance in Serbia located in Dušan's Code, in which it was the collective responsibility of farmers for damages to whom it happens. In a real sense of security in Serbia is mentioned only in mid-19th. Until the late 19th century, foreign companies had a monopoly in the provision of insurance services [8]. Between the two world wars, domestic insurance companies are gaining in importance.

After World War II, the institutional regulation of the insurance market is characterized systems in stages. In the period from 1945 to in 1961. Centralized management of security is performed through the state insurance company [1]. In a decentralized system of municipal insurance typical for the period from 1962 to 1967 Insurance companies are insurance business conducted in the municipalities, and the community controlled insurance policies for insurance premium rates. In the period post 1967 all until 1974 it is following to a kind of reorganization of insurance in terms of eliminating the territorial monopoly and free competition insurance companies through the abandonment of the system of uniform tariffs and premiums. The fourth stage in the development shall occur in the period following the adoption of the constitution in 1974. Whose content means that the insurance managed by the insured or the organization of associated labor and other social entities that pool their labor and resources. Until in 1990 compulsory insurance in Yugoslavia covers the same liability as today introduced the strict supervision of the insurance institution, through the control SDK (Social Accounting, hereafter SDK) responsible for collecting the necessary reports and accounts of companies. Obligations of insurance companies under the auspices of the SDK are meant respecting the basic principles of business, which requires that the revenue collected from the insurance fund costs for the implementation of insurance. During 1990 A new Law on the Foundations of security of persons and property [14], the following organizational forms of insurance business: joint stock insurance company, the public insurance mutual insurance company, your own insurance company, a joint venture insurance company and a special organization for carrying other insurance. During the period of hyperinflation and the wars in the former republics begins worst economic period in the business of insurance companies. During this period melted the hedge funds which prevent the function of ensuring the security and safety shareholders final target function of insurance. In such an economic environment created a number of joint stock companies without a guarantee fund for the sole compulsory automobile liability insurance. A greater number of policies is not recorded in the books, so the damage arising from automobile liability generally are not paid out or their compensation was paid in court, as opposed to insurance companies in the social property that had to comply with the legislation. Domicile practice of insurance is included in the global insurance market by abolishing the economic blockade by the United Nations Security Council and the adoption of the new Law on property in 1996. Tighter regulations for the equity capital of an insurance society development and the obligation of society to set aside part of the proceeds to fund guarantee reserves under the supervision of the Ministry of Finance. The adoption of the Law on Insurance of the 2004th [12] introduced more rigorous regulations to insurance companies through the requirements and operation of an insurance company, the amount of mandatory funding for each type of insurance, means of control, surveillance and emergency management by transferring the mandate of the Ministry of Finance to the jurisdiction of the National Bank of Serbia.

The basic division of insurance that is valid in most countries, including the Republic of Serbia on the basis of the Law on Insurance of the 2004th year of the life and non-life insurance. The Law on Insurance life insurance include: [12] life insurance, annuity insurance, supplemental insurance to life insurance, voluntary pension insurance and other types of life insurance. *Voluntary pension insurance* is currently the most attractive form of life insurance in the domestic market. In Serbia, this type of insurance carried out through the Company's voluntary pension fund management. Legal solutions that are entered force in 2006 Regulates the establishment and management of voluntary pension funds. In Serbia, insurance companies their funds depending on the strategies and policies for risk management investments funds, which can be represented in Figure 1

Figure 1 Portfolio structure of VPF



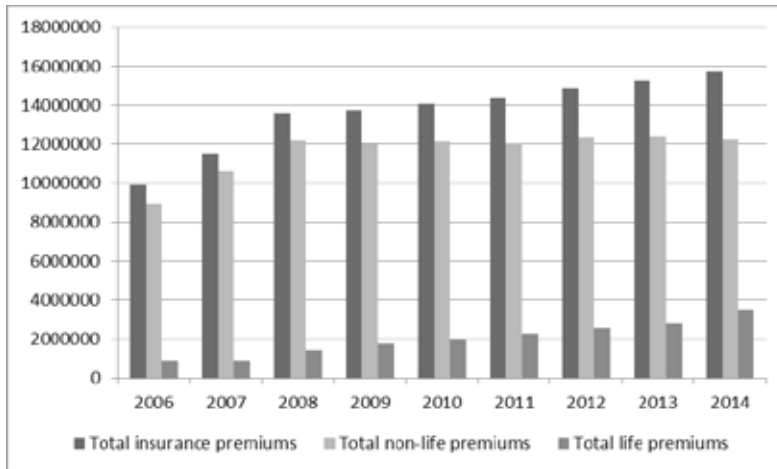
Source: The study authors based on official data of the National Bank of Serbia from: <http://www.nbs.rs/>

Life insurance in Serbia is at a very low level of development. In Serbia, the life insured only 2% of the population. With 10 euros per capita allocated to life insurance, Serbia is at the bottom and the surrounding countries. To change the situation, insurers have proposed legislative changes to the state (tax breaks) to encourage life insurance. By the number of sold life insurance policies in practice three leading insurance company “Wiener Städtische insurance”, “Delta Generali” and “Grawe” which together hold 73% of the market. After the sale of life insurance in Serbia done over 12 insurance companies [9].

The value of insurance is expressed in the amount of insurance premiums by the insured or insurance. The contractor shall be paid to the insured. The structure of insurance premiums reflects the application of the latest achievements in the scientific quantifying risk and business insurance companies. Indiscipline insurers to take risks eroding the principle of careful risk management, which threatens the ability of damages. The development of the insurance market in Serbia, measured by premium growth shows retention slightly positive trend, which can be represented in Figure 2, however, measured in European currency decreased.⁴ Therefore, these data should be used with caution when it comes to real growth in premiums in the Serbian insurance market.

⁴ According to the latest analysis of the Centre for improving security, Serbia, with the largest population in comparison to the Serbian Republic, the Federation of Bosnia and Herzegovina, Slovenia and Croatia, has by far the least amount of earned premiums of 407 million euros, while Croatia, with its population of 4.4 million and achieved more than double the premium of approximately 955 million euros for the first three quarters of the 2010th. It is interesting to note that Slovenia has a high life insurance premiums but Serbia overall, despite the fact that Serbia is almost four times higher. It just shows how much insurance activity in Serbia at a low level. (Read more about it: <http://www.osigurajtese.rs/uporedna-analiza-trzista-osiguranja-za-srbiju-hrvatsku-sloveniju-i-bih-i-rs/>)

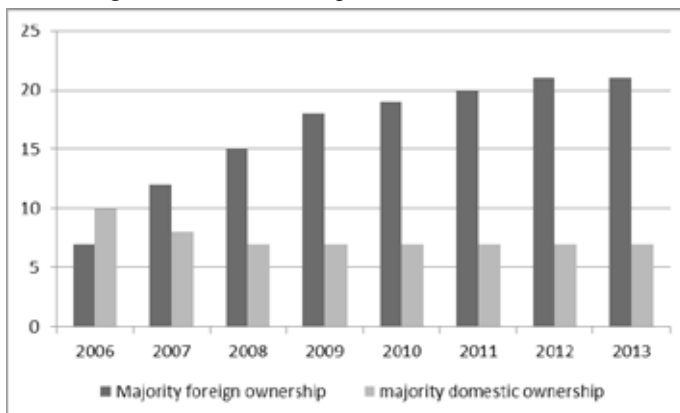
Figure 2: Comparison of insurance premiums during the period (data for the first quarter, amounts in thousands)



Source: Authors' research on the basis of official data of the National Bank of Serbia from: <http://www.nbs.rs/>

Based on Figure 2, it is evident that the insurance market in Serbia has room for expansion, especially in the area of life insurance. Such an increase in the share of life insurance owes rising insurance companies with foreign ownership, which can be represented by Figure 3

Figure 3: The ownership structure of the insurance

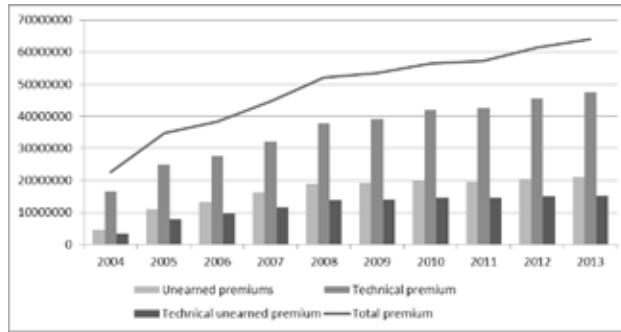


Source: authors' research on the basis of official data of the National Bank of Serbia from: <http://www.nbs.rs/>

Based on Figure 3, it is evident that with age observed increase in the Company's share of foreign-owned as a result of the purchase of the majority share package of domestic insurance companies by foreign private companies and they account for

approximately 92.5% of the total insurance premium.⁵ Insurers gain the favor of the insured in different ways. The most important component of trust is - fair and prompt payment of compensation or the insured amount. In Serbia, a comparative overview of the number of damage to life and property and casualty insurance specifically for the selected type of insurance is shown in Figure 4

Figure 4 Overview of damage by selected types of insurance



Source: Authors' research on the basis of official data of the National Bank of Serbia from: <http://www.nbs.rs/>

Note: left side - Accident insurance, Voluntary health insurance, Car insurance, Property insurance against fire and other hazards and Life insurance.
right side - Total number of insurance.

Understanding of damage insurance, in practice, very often identified with the legal concept of damage, and the same is the case with insurance benefits, which, in practice, is identified with damages. As in the instant case is not about the conceptual and real identity, the result of a “misunderstanding” and / or disputes between insurers, on the one hand, and the insured or the injured person, on the other hand.

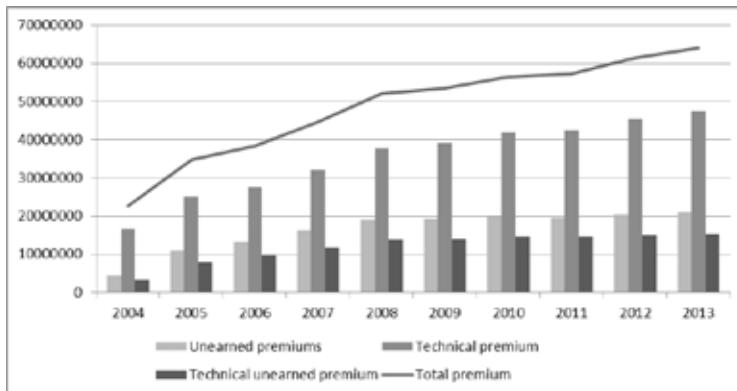
2. Insurance network sales in serbia

Sell insurance services are activities and activities that the service is offered for purchase to potential policyholders, the time and place where they want them to buy. Insurance services can be distributed to various retail channels. It is important that these sales channels ensuring the availability of insurance at the right time, the right place and in adequate quantities. Proper selection time selling insurance underwriter must satisfy two factors: 1) the economics of selling insurance, and 2) the insured satisfaction with the service provided [2]. An important indicator of regulating the insurance market represents movement and technical reserve. Next

⁵ In comparison with neighboring countries, most of the companies with domestic capital participation in the insurance premium are Africa with 22%, followed by Slovenia with 17%, while in Serbia and the Federation this percentage is about 8%, and in Montenegro, only 2%. In the Republic of Serbian and Republic of Macedonia in life insurance are not participating companies with domestic capital.

figure 5. supports the much faster growth in technical reserves which is largely a result of the establishment of criteria for the calculation of technical reserves set by the National Bank of Serbia, as well as strict control of the adequacy of allocation of technical reserves. This calculation allows insurers to more realistic estimates of reserves and thus protect the interests of policyholders and beneficiaries of insurance.

Figure 5: Overview of total insurance premiums
(Amounts in thousands)



Source: Authors' research based on official data from the annual reports of the activities of supervision of insurance activities by year since 2004. Till 2013th Available at: <http://www.nbs.rs/>

In the 2013th the top of the ranking list of insurance companies in the insurance market has no significant changes as far as the position, the top five insurers are at the same place as 2012. Leader of the amount of the premium is still Dunav Insurance, followed by Delta Generali, then DDOR Novi Sad, Wiener Städtische and UNIQA insurance. The total premium of the five insurance companies amounts to approximately 80 percent of the total premium. Although Dunav Insurance has its own reinsurance company, the situation in Serbia is complicated by the fact that all other important company of his excess risk placing foreign reinsurers, so that a significant portion of foreign funds leaving the country in respect of reinsurance premiums. View the number of insurance companies is presented in Table 1

Table 1: Overview of the insurance company

In	Number of insurance companies			Insurance Jobs	Reinsurance
	in total	vitally	Non-		
2006	17	1	7	17	2
2007	20	3	8	17	2
2008	22	5	9	19	2
2009	25	7	9	21	3
2010	26	7	9	22	4
2011	27	7	10	23	4
2012	28	7	11	24	4
2013	28	7	11	24	4

Source: Authors' research on the basis of official data of insurance sector in Serbia, Report for the third quarter of the selected year. Available at: http://www.nbs.rs/internet/latinica/60/60_6/izvestaji/izv_III_2013.pdf

A distribution sales channel, in today's modern insurance market has an important role. Their development is largely dependent on the financial progress and development of the state [5, p. 40]. In countries with a developed life insurance agents have for years been the dominant distribution channels with the advantages and disadvantages [24]. Vendors of services, especially those who have developed their own sales network, maximum use them, because it is the easiest and cheapest way to sell your services or products. Since the method of selling insurance through external channels, newspapers on the habitat areas that they are in this paper indicate special attention.

Direct, or internal sales channels are actually organizational parts of an insurance company consisting of: branches, offices, representations and offices [24]. Direct sales of insurance a sale carried out by employees of the insurance company, means implies direct contact of the insurer and the insured. What characterizes this type of insurance sales is keeping sales conversation between the two parties. Field service workers are employed outside insurer seats and do not address the administrative and organizational tasks. Most often found in offices, i.e. branches of insurance companies. It is still in our most common form of *selling insurance on the premises insurers - over the counter*, especially when it comes to compulsory insurance such as auto insurance - liability. Then it should be emphasized so. *Sale of the house* to which was created as a source of workers' insurance sales in the U.S. and later transferred to Europe. But the advent of telephone and Internet sales of this type of insurance becomes less important, and therefore *sales via telephone and the Internet* becomes a form of sale in front of which is the future. Our market is mostly unprepared for this type of provision of information, ranging from the insured and the insurer, and the legal framework. We can get information on the amount of premium range of insurance, retail stores, but unfortunately, it was not possible to conclude insurance over the Internet or by telephone. The lack of these services can lead to loss of the insured, to information in another insurance company which also narrows the choice of insurers.

Indirect or external, and alternative distribution channels selling include a new way of selling insurance in developing countries in the following we present a brief presentation of each of them, as well as their role in the relationship between the insured and the insurance company.

Selling insurance through brokers means the sale by a person who is an expert to mediate between the insured and the insurer when concluding the implementation and fulfillment of the contract of insurance [17, p.335.]. With operations in insurance brokerage, insurance broker can perform the tasks of counseling and assistance in claims handling and risk assessment and damage. Insurance brokerage in Serbia can deal only with commercial entities with permission of the National Bank of Serbia. The largest brokerage house in the domestic insurance market is definitely an American “Mars” (MARSH).

Leasing (*Eng.* leasing) the business relationship between the two legal entities or individuals, are regulated by the legislation of the Republic of Serbia Law on financial leasing. [7]. Immediately after the “entry” of banks with foreign capital in the financial market in Serbia and the region, appear to be the first leasing company. They are mostly owned by banks as part of their business chain, as banks are permitted to engage in leasing, directly or indirectly. Initially engaged in leasing equipment, and later the estate equally to companies and individuals.

Association. In addition to citizens' associations were established and various associations of small businessmen, the so-called. vocational or professional association

(association of bakers, taxi drivers association, the association of accountants, engineers and technicians association, association of doctors and nurses and many others). The best results are achieved when selling personal insurance.

Travel agency. One of the key documents to obtain entry a visa to some countries was concluded TRAVEL INSURANCE POLICY. This situation has caused a sudden demand for tourist passenger policy insurance, what insurance companies immediately and reacted. Today, almost all travel agencies provide their tourists based on travel health insurance.

Shippers. All goods being transported and stored must be protected and secured and it is in that parts of the insurance companies are a suitable opportunity to sell your product related to the business of freight forwarding. Because it is a specific type of insurance, the role of freight forwarders can only be an intermediary, or to relate the insured and the insurer, and the insurance business will be done directly to the insurer.

Consolidated billing. Method of consolidated billing, and networking database, created the conditions for the effective sale of insurance products, which are recognized by insurance companies as a new sales channel. Communal facilities with delivery invoice for services rendered within its industry, customers and deliver our payment to the amount of the insurance premium for an apartment or house.

Call - centers, Internet - social and mobile network. The use of the Internet in the distribution of insurance services has led to the emergence of insurance companies that their operations are based solely on the presence on the Internet (on-line sales), but their offer insurance services limited [23]. Social networks such as Facebook, Tweeter, MySpace, Google and many others, as well as mobile networks are particularly accessible to younger target group of clients and are suitable for the sale of those types of insurance that are intended for them, and it is primarily a journey.

Selling insurance to help insurance agents. Unlike brokers who represent the interests of the insured, and with all insurance companies, not favoring either one insurance company, **Counselor** has home insurance company. To perform this job is not necessarily higher education, as is the case for mediation. Representation in insurance dealing with business entities and entrepreneurs with the permission of the NBS. While the high level of professionalism shown by brokers, it cannot be said for every case of lawmakers. Lack of knowledge of business, less education or high competition, leading to the appearance of the representatives of the premiums returned to policyholders, giving up a portion of salary.

Insurance agents take in the insurance business undertake activities related to contracting, as well as jobs that consist of assistance in the conduct of the rights and obligations of the contract [21, p.173]. There are three forms of insurance agency: **representatives employed in the insurance company** (Usually it's "representative at the counter" or "representative on the ground"),⁶ **agents under contract** (Agency representative) **companies and agencies** (A legal entity, which as economic activity act on behalf of insurance companies for the conclusion of insurance contracts, through its employees).

⁶ In practice, they differ in that the "representative at the counter" representation activities performed by the counter and usually its fixed salary. "A representative of the ground" advocacy activities carried out on the field and his earnings to the extent minimum wage fixed, beyond that depends on signed contracts.

Auto service and technical inspection of vehicles. A large number of stations for technical inspection of vehicles and created the conditions for the sale of insurance policies for motor vehicles, and the channel was very active for selling. Regardless of the cost of this channel selling insurance policies is by far the most frequent in the insurance market in Serbia.

Bank insurance is a unified range of banking and insurance services. The main motive of insurance companies to develop bank insurance is spreading external distribution sales channel and access to a greater number of insured through an already established network of branches, which have a wider network of business units rather than insurance companies [4, p. 8]. In Serbia, the manifestation of the bank insurance is a contract between a bank and an insurance company. Bank acting as agent can sell certain types of insurance for and on behalf of the insurance company, and conducted advocacy gets vicarious commission. In addition to this form, there is an interesting case that an insurance company buys bank to the next banking business engaged in the sale of insurance products. Through bank insurance can sell three to five times more than an insurance policy through their normal sales, which is the essence of the mutual interest of both banks and insurance companies.

Conclusion

The function of sales is the most important feature in insurance. New ways of selling products is manifested through external distribution sales channels. This method of selling insurance in the world is recognized as a modern approach for the sale of insurance. On the Serbian insurance market come overseas companies, which give priority to certain types of insurance that have so far been neglected (e.g. general civil liability and responsibility from the activities of various professions, such as doctors, lawyers, auditors, forensic experts and others.) With all greater liberalization of the insurance market and the arrival of foreign insurance companies to initiate a fair competition. It is necessary to use multiple sales channels to achieve greater cost-effectiveness, availability of services, quality promotion services. It is possible to achieve an advantage if you build and develop good business relationships with all participants in the distribution of insurance. In order to get closer to all categories of beneficiaries of insurance, insurance companies ahead active work on the modernization of its own manufacture of the products and creating new ones, as well as finding new ways of selling. From the perspective of institutional regulatory efforts should be directed towards the abolition of illegal and legal obstacles to the liberalization policy. Improvement can be made by appropriate changes and amendments to the Law on Insurance, the incorporation of European directives into national legislation should incorporate the rules of the European directive so as to harmonize protection at the European level.

On the Serbian insurance market new insurance products are missing new risk arrangements, and innovative insurance products and services to fill the current void. You need to perfect the technique of selling insurance. In the insurance sector should always be in the right time at the right place. Type of insurance products should be very simple for the sale and for the understanding of the customer, and must be translated from the language of the insurer to the ordinary citizen. It should also expand the list of compulsory insurance, as is the case with liability insurance. When choosing new ways of cooperation with distribution channels selling insurance to make a selection and reorganization of sales channels. You must resolve the question of whether we want to get and keep customers and long-term insurance

or want clients who are looking for a lower cost of insurance. It is necessary to develop cooperation with existing brokers and insurance agents based on ethical business principles of insurance, through a concrete business relationship, mutual respect, trust and respect of mutual obligations. Also, it is necessary to develop cooperation with the new insurance sales channels, and one of them is the development of digital marketing insurance through the presentation of the brand to achieve the best return on investment. Enhancing cooperation with various associations (agencies, associations and various companies) to widen access to clients to potential users of mass insurance and expansion of new possibilities for the development of sales network. Of great benefit to the development of an integrated approach to cooperation with banks through bank insurance, both for the client because it has integrated banking and insurance services tailored to specific needs, such as for a bank to increase the degree of loyalty and customer retention, and create additional revenue.

References

- Act on insurers and insurance communities, “Official Gazette of the SFRY”, No. 27/1961 Belgrade.
- Bjelić, M. (2002). *Insurance and reinsurance*, Tectus, Zagreb.
- Ćirović, M. (1994). *Stock market*, Belgrade.
- Dumm E.R. & Hoyt E. R., (2002). *Insurance Distribution Channels, Markets in Transition*.
- Demirakou, M. (2010). *Comparative study on insurance mediation based on the responses of national sections AIDA, reports and discussions with participants during the meeting of the working group AIDA distribution of insurance products*, Journal of Insurance Law, Belgrade, No. 2.
- Djordjević - Vignjević, N., (2011). *Marketing management in the insurance market*, Economics, Niš, 1.
- Financial Leasing Law, “Official Gazette of RS”, no. 55/2003, 61/2005, 31/2011 and 99 / 2011th
- http://ec.europa.eu/internal_market/insurance (timestamp: 10.6.2014.)
- http://zivotnoosiguranje.co.rs/?page_id=151
- <http://www.osigurajtese.rs/uporedna-analiza-trzista-osiguranja-za-srbiju-hrvatsku-sloveniju-i-bih-i-rs/>
- Ilić, S. & Šakan, M., (2009). **International business activities, globalisation and transition, časopis Ekonomika**, Društvo ekonomista, Niš, no. 3-4.
- Insurance Law, “Official Gazette RS”, 55/2004 and their amendments, and corrections published in the “Official Gazette RS”, no. 70/2004, 61/2005, 61/2005, 85/2005, 101/2007, 63/2009, decision of the Constitutional Court no. 107/2009, 99/2012 and no. 116/2013.
- Jeremić, Lj. (2010). *Market research and sales collateral*, University Singidunum, Belgrade.
- Law on the Foundations of security of persons and property, “Official Gazette SFRY”, no. 19/1990, Belgrade.
- Law of Obligations, “Official Gazette of SFRY”, no. 29/78, 39/85, 45/89, making USJ and 57/89, “Official Gazette”, no. 1/2003.

- Mishkin, F. (2006). *Monetary Economics, Banking and Financial Markets*, Data Status, Belgrade.
- Marović B. & Žarković N. (2002). *Lexicon insurance*, DDOR “Novi Sad” a.d., Novi Sad.
- Mrkšić D., Miloradić J. & Žarković N. (2006). *Introduction to Insurance and Life Insurance*, Zaslou, Sremska Mitrovica.
- Novičević, B. (1985). *Sources of financing criteria as determinants of investment efficiency*, Economics, Niš, no. 1-1985.
- National Bank of Serbia, web: <http://www.nbs.rs>
- Pak J, (1998). *Agents and brokers as well as insurance brokers*, Legal life, no.10, Belgrade.
- Rohrbach W. (2009). *Loyal and disloyal competition in insurance*, Journal of Insurance Law, Belgrade, no. 3-4.
- Soca - Prince S., *Distribution channels*, Faculty of Economics, Mostar, 2012/2013, p. 46, available at: http://ef.sve-mo.ba/materijal/3_PE/2012%202013%20Kanali%20Distribucije%20predavanja%20III%20PE.pdf
- SWOT Analysis of Tied Agency, Source: Paper on distribution channel by Dataminior 199 Bimaquest, Vol.VIII, Jan. 2008th
- Žarković N., (2006). *Re-insurance with coinsurance*, FFMO, Belgrade.

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SCIENTIFIC REVIEW ARTICLE
Received: October 31, 2014
Accepted: November 25, 2014

DEVELOPMENT OF THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY IN TRADE UNDER CONDITIONS OF MARKET GLOBALISATION²

Abstract

Under contemporary business conditions, market globalisation has become inevitable. Such relationships on the market make trade companies use different means to acquire and maintain long-term competitive advantage. One of them is the concept of corporate social responsibility, which is, under conditions of globalisation, seen as a redesign of the classic marketing concept. The aim of this paper is to highlight the development of corporate social responsibility in trade, in the context of market globalisation. In doing so, the concept of corporate social responsibility is seen from two angles. First, it is viewed as a moral obligation of companies and the element of marketing strategy in contemporary business conditions. Second, corporate social responsibility is regarded as one of the integral elements of harmonisation of our trade and corporate policies with the EU.

Key words: corporate social responsibility, globalisation, marketing, trade policy

JEL Classification: L80, M21

РАЗВОЈ КОНЦЕПТА ДРУШТВЕНО ОДГОВОРНОГ ПОСЛОВАЊА У ТРГОВИНИ У УСЛОВИМА ГЛОБАЛИЗАЦИЈЕ ТРЖИШТА

Абстракт

У савременим условима пословања глобализација тржишта представља неминовност. Такви односи на тржишту утичу да трговинске компаније користе различита средства за стицање и одржавање другорочне конкурентске предности. Једно од њих је и концепт друштвено одговорног пословања који се у условима глобализације посматра као редизајнирање класичног маркетинг концепта. Циљ рада јесте да укаже на развој концепта друштвено одговорног пословања у трговини, у контексту глобализације тржишта. При томе, у раду се ционцепт друштвено одговорног пословања посматра из два угла. Прво, као морална обавеза предузећа и елемент

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² The paper is part of the research within the Project No. 179081, funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia

маркетинг стратегије у савременим условима пословања. Друго, друштвено одговорно пословање посматра се као један од саставних елемената хармонизације наше трговинске и корпоративне политике са ЕУ

Кључне речи: друштвено одговорно пословање, глобализација, маркетинг, трговинска политика

Instead of introduction: under conditions of market globalisation, national economies become “affiliates” of multinational companies

The global “virus” of consumption is expanding to all market niches. International retail chains are eliminating the last barrier among the local, regional, and global markets. The products that they offer are becoming global, which leads to the globalisation of consumers. This is illustrated by Jürgen Elsässer (2009), the author of “The Nation State and Globalisation”, who, when asked what globalisation is, replies: “These are cheap flights to Seychelles, kiwi in the supermarket, Volkswagen’s advertisements on the Red Square” (p. 18).

Robert W. Cox, a prominent Canadian professor, sees globalisation primarily as trend in the internationalisation of production, internationalisation of financial markets, new international division of labour, new migratory movements from South to North, new contesting and competitive environment that accelerates the process of internationalisation and transforms states into agencies of the globalised world (Plevnik, 2003, p. 23). A sort of “entanglement” of flows of goods and services, capital, labour, technology, innovation, and information occurs. New information and communication technologies promote the concept of electronic commerce, electronic financial markets, electronic stock exchange, virtual supply chain, and other novelties, which gives the economy the epithet global. The development of traffic and new models of freight transport has given an opportunity to bridge the gap between the concentrated production and globally dispersed demand. Trade flows of goods and services are becoming internationalised. The capital is making even bigger “step forward”, by paving the way for the “financial corridor”, being under the command of Washington, i.e. the IMF (Krugman, 2010, p. 100). Strategic alliances integrate business systems from different economic sectors, on the one hand, and different geographical areas, on the other hand. Unique “contracting-voluntary” production-trade chains are created. The transfer of technology, know-how, and marketing management skills are becoming binding thread of the business systems inside strategic alliances. Electronic business documents have been developed in parallel, “travelling” ahead of goods, linking producers, trade, and consumers in the globally integrated marketing information system (Ćuzović, Sokolov Mladenović & Ćuzović, 2012, p. 955). Innovation brought by scientific and technological progress is becoming globalised, without leaving aside any national economy, the participant on the global market. Electronic procurement, sales, electronic money, in a word, electronic markets of goods, services, and capital, which were in the nineteen-eighties mentioned as a vision, are becoming a reality (Turban, Mc Lean & Wetherbe, 2003, p. 168).

Trade is going on, without business partners seeing each other. This is, in addition to the application of electronics and computer science, the result of international quality standards (ISO 9000, ISO 14000, HACCP, ISO 26000, ISO 27000, CE mark) (Ćuzović, 2010, pp. 4-6). The trade in goods is carried out without the presence of goods, with reference to the quality standard. Trade is performed without “linguistic, technical, and

physical” barriers. The national market is thus integrated into the global. On the other hand, business on the global market cannot happen haphazardly. This means that any company that plans to “compete” on the regional and global market needs to develop a concept of corporate social responsibility, as an added component of competitive visibility and strengthening business performance.

Bearing in mind the above presented facts, on the one hand, and contemporary theory and progressive practice, on the other hand, the aim of this paper is to analyse the marketing management skills of trading companies in mastering the secrets of corporate social responsibility under conditions of market globalisation.

Theoretical aspects of corporate social responsibility

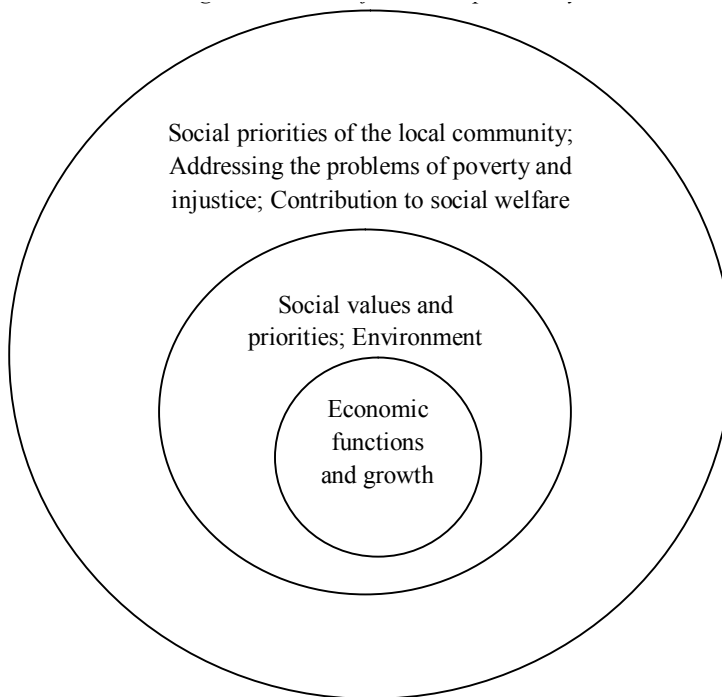
Research on the topic of corporate social responsibility starts from the fact that the sustainable growth and development of the national economy is derived from corporate social responsibility practices, used by companies to achieve competitive recognisability and superior business performance. However, compared with other factors that influence the competitive positioning and superior business performance of companies, empirical research that directly examines the impact of corporate social responsibility on company performance and sustainable growth and development of the national economy is still scarce. The intriguing question is whether corporate social responsibility has a greater or lesser impact on the business performance of companies and macroeconomic recognisability of the national economy in comparison to the impact of other factors, and it represents a challenge not only for the companies and the national economy, but also for all other stakeholders (owners, managers, employees, business partners, and society at large). In addition, corporate social responsibility is an important element in the harmonisation of institutional preconditions for regional and global integration of (post)transition countries. Theory and practice agree in their assessment that the growth and development of the national economy on the basis of corporate social responsibility are some of the key criteria for membership in the European Union. Without the implementation of corporate social responsibility in the marketing strategy of business and trade entities, there is no step forward to the EU market. It should be noted that corporate social responsibility is an important factor of competitive recognisability and business performance of the national economy, on the one hand, and business systems, on the other hand. In a word, corporate social responsibility affects the macroeconomic and microeconomic competitiveness.

Social responsibility implies that a company plays a vital role in the society and achieves economic goals, thus giving constructive contribution to social welfare in the long term. A few decades ago, many authors considered that the primary responsibility of the company lies in maximising profits, within the framework of legal regulations (Schlegelmich, 1998, p. 20). According to them, social welfare was the responsibility of the state. However, subsequent interpretations and concepts have gone much further (Mintzberg, 2000, p. 70). The prevailing opinion is that an increasing number of companies are behaving socially responsibly, in the sense that they focus their activities on maximising profits, while taking into account social welfare and interests of stakeholders, whose rights must not be compromised. Key stakeholders of trading, as well as other companies, are: owners, employees, suppliers, customers, and the local community (Ghuri, Cateora, 2006, p. 470). Taking into account their interests, the company runs socially responsible business.

Therefore, social responsibility refers to the voluntary responsibility, which fully corresponds to the economic and legal responsibility of a company. This means that the

company is ready to “sacrifice” part of the profits for the benefit of its stakeholders. This can be defined as corporate behaviour to the extent that is consistent with prevailing social norms, values, and expectations (Sethi, 1997, p. 65). These responsibilities can be displayed at different levels, as can be seen in Figure 1.

Figure 1: Levels of social responsibility



Source: Ghauri, P., Cateora, P. (2006). International Marketing. McGraw-Hill. New York, p. 468.

The inner circle in the figure indicates the minimum responsibility of the company relating to the effective realisation of economic functions. The second circle indicates the awareness of the change of social values and priorities regarding the environment, safety of employees and customers, and relations with employees. The third circle indicates the new priorities which companies must comply with. This includes improving the lives in the local community and assistance in addressing problems such as poverty and injustice (Ćuzović, Sokolov Mladenović, 2008, p. 112).

In addition to corporate social responsibility, trading companies have the obligation of ethical behaviour. This behaviour is a direct consequence of increased consumer awareness regarding (un)ethical behavior and positive or negative publicity. Ethics itself points to a set of standards or rules of conduct, based on moral duties and obligations (Ghauri, Cateora, 2006, p. 472), which means that these standards are based on values, beliefs, society, and legislation.

Consumer – starting and ending point of corporate social responsibility under conditions of market globalisation

The business strategy of trading companies under conditions of market globalisation requires market research of host countries. Information on the global market can range from general indicators of the level of economic development of the host country, to the specific, such as: who are the customers, what do the customers buy, at what time do they buy, what are their perceptions, what affects their choice when buying (price, quality, services), what is their relationship to products and services of competitive firms, are their preferences dominated by exclusive products or products of unusual style, how much are they able to follow the fashion trends, and the like. Intensive economic growth and significant structural changes in the era of the “new economy” have led to the reengineering of marketing in a global society. Revolutionary changes are based on the development and application of new technologies in production and trade.

Marketing changes under conditions of “new digital web economy”, on the one hand, and global market, on the other hand, are, based on the meaning and intensity, compared with the industrial revolution, which played a key role in the overall social, economic, and cultural changes of the national economies and the global economy. Today, certain parallels can be seen in terms of marketing trends in the “new economy”. The fact is that global marketing has become the subject of plenty of discussions, which is a direct consequence of the numerous technical, technological, social, and economic changes, but is at the same time their direct instrument (Ćuzović, Sokolov Mladenović, 2013, p. 33).

The development of marketing has made a significant contribution to the dominant role of trading companies on the global market. Theory and practice agree in their assessment that the investment in marketing is the most profitable investment of any company. This is logical if one takes into account that there is no success, no production, and no trade without strategically designed marketing activities. Along with that, the management of trading companies recognise marketing as a tool for conquering foreign markets. It often happens that the company has the equipment, capital, and labour, but that it is unrecognisable on the global market. Analysing the potential causes of failure, researchers most often refer to inferior marketing compared to the competition, on the one hand, and consumers, on the other side.

Starting from these observations, the question is – what is specific about the global marketing? (Keegan, Worren, 1989, p. 1) In literature, many authors have tried to contribute to a more precise definition of the term international marketing. We emphasise the interpretation provided by Keegan (1989), the authority in the field of marketing. He replaces the concept of international and multinational marketing with the notion of global, noting that “global marketing is the process of directing resources and goals of the company to the global (world) market” (p. 2).

Generally, it can be inferred that globalisation and marketing are in close dialectical correlation. It is certain that the central place in the global marketing belongs to the consumer. Consumers are the starting and ending point in the policy of range of goods and services that the global market prefers. The logical question that arises in this study is: which marketing programme can be used to compete in the global marketplace? This perspective opens up an additional question: can global marketing be standardised?

The answer to this question will be looked for in the attitudes held by Buzzell (1982, p. 55) and Sorenson (1984, p. 15), the representatives of the two schools representing different views. Buzzell assumes that human needs are all similar, whereas Sorenson argues that different cultures usually open different needs, though some basic

needs have universal expression on a global scale. It is true that the global market, with all its economic, technological, cultural, and sociological characteristics, offers a number of examples which support both views. Therefore, in the meantime, a conciliatory theory has appeared, promoting “subglobal” or “adaptable” strategy. The emphasis is on “the standardisation of prototypes”, i.e. “the framework-partial standardisation”. In the general debate on the question, many theorists and practitioners believe that it is not important whether it is possible to standardise all activities in the global marketing, as it is important whether a strategy for the implementation of the global marketing programme is standardised. Levitt, a theorist, got involved into the debate as well, and made a significant contribution and gave a special tone to the debate on this question (Hovell, Walters, 1992, p. 22). Theoretically, according to Levitt, the strategy of standardisation of global marketing programme involves identical marketing mix (of products and services, prices, channels of distribution and promotion) in all countries (Hovell, Walters, 1992, p. 23). The other extreme would be a complete localisation of marketing programmes in line with the diversity of consumer demands of the host country. Therefore, it is more appropriate to speak of a standardised and adaptable marketing strategy on the free market. In further elaboration of this thesis, Levitt points out that the only successful global companies are the ones that are able to offer consumers globally standardised range of goods and services.

This does not end the debate on the topic of standardised and adaptable marketing programme of the companies participating on the global market. Papavassilou i Stathakopoulos (1997, p. 45) deepen Levitt’s attitude, supporting it at the same time. According to them, the benefits of standardised marketing programmes on the global market are reflected in the following: a) they provide the opportunity for the company to build a globally recognisable corporate image, b) standardised marketing programmes make the consumer aware of the global recognisability of the company and its products worldwide, c) standardised marketing programmes contribute to the economies of scale of production and marketing, and d) they save on resources for promotional and communication mix. On the other hand, supporters of adaptable strategy only partially support Levitt’s views, noting that it is impossible to implement the standardised marketing strategy on the global market, because there are differences at macro and micro level of individual national markets.

Wrapping up the discussion on this topic, it can be concluded that there is no universally accepted marketing strategy regarding the performance of companies on the global market. The benefits of standardised strategy can be the defects of adaptable strategy and vice versa. It is obvious that the elements that make up the marketing strategy can be standardised, and management of globally oriented companies will pursue the policy of adapting individual elements of the strategy to the selected market segments.

The most common objections to global marketing

In recent years, theorists and practitioners, advocates of the concept of sustainable development, are beginning to “reproach” the marketing managers whose companies operate on the global market. Their objections are articulated in the form of questions, such as: does the marketing concept, as the cornerstone of a consumer-driven society, only rhetorically or substantively cares about environmental protection? Does marketing concept take care of the geological non-renewable resources? Does marketing concept take care of the reduction of poverty? What is the position of marketing managers regarding growing social stratification? Is profit the only measure of success of marketing

management? Does the realisation of marketing objectives contribute to social welfare?

The most serious criticism of the marketing concept refers to whether it can bridge the gap between meeting short-term desires of consumers, on the one hand, and long-term responsibility (caring) for society as a whole, on the other hand. Customers may want powerful cars, refreshing and other types of drinks in non-returnable containers, but the question that arises is: what implications will this have for society in the long run? (Kotler, 2011, p. 30) In such a situation, it is likely that the society will have to pay a “price” for the pollution of working and living environment and packaging that cannot be recycled. These situations have led to demands for new concepts of marketing and business. Among the many proposals, “humanistic marketing”, “environmental marketing”, “socially responsible marketing” have appeared. All these suggestions for “redesigned marketing” refer to different aspects of the same problem. Kotler (2011) proposed the “concept of socially responsible marketing”, whereas macroeconomic experts proposed “corporate social responsibility” (p. 31). Today, this new concept includes the concept of “socially responsible corporate governance” (Petrović, 2008, p. 84). What is common to all these concepts is a business strategy based on ethical, economic, and environmental principles.

Therefore, under conditions of globalisation, the term corporate social responsibility involves the redesign of the classic marketing concept as a business process. This new “redesigned” marketing is focused not only on making profits, but also on increasingly pronounced benefits realised on the basis of ethical, environmental, and social principles. It follows that the corporate social responsibility is the strategy of permanent commitment, based on ethical and social principles, of economic policy makers, macro-management and marketing management of companies to the achievement of economic growth and development of the economy, on the one hand, and improvement of social and economic status of all employees and society as a whole, on the other hand.

Corporate social responsibility – “moral obligation” of companies

It could be argued that corporate social responsibility is the “moral obligation” of companies, including trading companies, which the management implements into the business strategy with the goal of increasing the social welfare, by meeting the interests of all stakeholders (Kantino, 2007, p. 25). In such circumstances, the market developed countries implement the concept of corporate social responsibility in the marketing strategy of the company. In doing so, the concept of socially responsible companies and socially responsible institutions is affirmed. This concept is built and maintained through an ongoing commitment of the business systems to ethical behaviour in the realisation of economic growth and development, while contributing to the welfare of all employees and society as a whole. In other words, corporate social responsibility is the introduction of a new way of thinking into the company management. Changing ways of thinking can positively affect: performance, risk management, risk reduction and risk avoidance, performance improvement, making a profit and leaving risk far behind. It is a corporate philanthropy, which strikes a balance between economic objectives and the company’s involvement in society. It is believed that socially responsible companies are the ones that are responsible to (Lewis, 2006, p. 11):

- Employees, by respecting their basic human rights, such as health and pension insurance and working hours,
- Business partners and competitors, by complying with good business practices,

- Consumers, through the production and sale of high quality products (safe in terms of technical, technological, and environmental factors) at reasonable prices,
- Communities in which they operate, through environmental protection, social care, responsible use of natural resources.

The benefits of corporate social responsibility are most commonly referred to:

- Protection and improvement of existing resources (human capital and the environment),
- Increase of business and financial performance of companies by reducing operating costs,
- Creation of new business opportunities and new markets,
- Preservation, development, and improvement of the company image, especially in relation to consumers,
- The company becomes attractive to investors, educated, and motivated workers.

Marketing managers from post-transition countries in the process of mastering the secrets of corporate social responsibility

Starting from the stated benefits of corporate social responsibility, this concept is imposed as increasingly present requirement under conditions of regional and global integration. As we have already noted, an integral part of the concept of sustainable development is business ethics, which becomes an integral part of the marketing strategy of all business systems and institutions, and a unique kind of behaviour (Lajović, 2013, p. 50). It has gained in significance under conditions of internationalisation of business of trading companies. However, in the process of doing business on the global market, trading companies are faced with the question of whether their ethical principles are uniform and homogeneous. Practice has shown that what is considered ethical behaviour on one market (country) is unethical in another. A striking example of this is bribery or corruption. In some countries, such as Hong Kong, Russia, and Indonesia, bribery is a formal way of doing business, whereas in others it is informal and viewed as a way of violation of ethical principles³. In order to prevent the occurrence of bribery in business relations, many countries have signed the convention against bribery, which, on the other hand, does not fully guarantee that this illegal and unethical activity will not occur⁴.

In addition to bribery, (un)ethical behaviour is especially pronounced in the implementation of marketing activities of international trading companies (Blythe, Zimmerman, 2005, p. 361). Implementation of these activities focuses on the target group of consumers. Starting from the scientific expert opinion that consumers are “the lifeblood of companies”, ethical behaviour towards them is of utmost importance. Otherwise, the trading company “pays the price” of negative publicity and will need a lot of time and effort to reposition itself on the market.

³ The trading companies mostly face the practice of (not) giving bribes when obtaining permits for the construction of their facilities, if they use the strategy of foreign direct investments.

⁴ The countries that have signed the convention against bribery are: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, Czech Republic, Germany, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, USA.

The types of (un)ethical behaviour of trading companies in conducting marketing activities on different international markets can be seen in Overview 1.

Overview 1: (Un)ethical conduct of international trading companies

Marketing activity	(Un)ethical behaviour
Positioning	Positioning of low-quality product as high-quality product Positioning a product that performs functions that are not true (e.g. food that reduces cholesterol) Blackmailing the consumer that if they do not use a certain product, they will be hurt in some way
Product	Product that can hurt consumers (e.g. toys for children) Product with the risk of violating safety of the user (e.g. electrical appliances) Product that may cause distortion of consumer's health When consumers are not fully informed about the composition of the product
Prices	Price cartels, i.e. when two or more companies determine a price that is higher in relation to the competition Unreasonable price increases without providing additional benefits Application of monopoly prices Illegal payments (bribes) or giving gifts for the purpose of increasing sales volume
Promotion	Promotion of false characteristics of products through advertisements Incomplete information to consumers through differentiated communication Using inappropriate language in advertisements Using discriminatory or degrading slogans Illegal payments (bribes) in order to promote the product range
Distribution	Discriminatory distribution, i.e. forcing suppliers to discriminate between customers (i.e. to whom they will deliver the products) Looking for illegal payments (bribes) from the suppliers in order for their products to be found on the shelves of retail stores of trading companies (Not) taking responsibility for after-sales services (e.g. service and installation of parts of complex technical products).

Source: Ghauri, P., Cateora, P. (2006). International Marketing. McGraw-Hill. New York, p. 478.

Previously described (un) ethical behaviour faces trading companies with a number of dilemmas and challenges. First of all, (un)ethical behavior is directly proportional to the volume of sales and overall company image. Changing business conditions lead to the fact that it is no longer enough just to provide consumers with high-quality products and services, but that it is essential to leave an impression of a “good corporate citizen”.

However, for the trading company to be called a “good corporate citizen”, it is necessary to respect consumers’ demand for environmental products. In this context, consumer movements and other organisations are becoming louder in their demands for eco-labelled, natural, and healthy products. Dirty technologies are moving from developed countries to less developed countries. In countries with developed environmental awareness, the principle “polluter pays” is introduced. Eco-products and eco-packaging are becoming subinstruments of marketing mix of multinational companies.

In former transition countries, such as Serbia, in the past, most companies satisfied the consumers’ needs without taking into consideration the exploitation of current and future environment. Many of them realised the consequences of environmental damage that has already been made when they started the process of joining the EU. Acid rain, ozone depletion, toxic pollution of air, soil, and water are “the balance” of socially irresponsible business. Theory and practice recognise the vulnerability of the environment as a long-term problem that will confront marketing managers and economic policy makers in the next several decades. In the past, most companies calculated the costs of environmental pollution into the price that was paid by the consumer. This is now changing. The strategy for sustainable development and Agenda 21 are becoming a binding document for all EU member states, as well as countries that are negotiating to become candidates for EU membership. Our country has not ratified Agenda 21, but has adopted the Strategy for sustainable development, which aims to (Ministry for the Protection of Natural Resources and Environment of the Republic of Serbia, 2002) “bring into balance the three key factors, or the three pillars of sustainable development: sustainable economic growth and economic and technological development, sustainable development of society based on social equality, and environmental protection through rational management of natural resources, combining them into a single unit, supported by appropriate institutional framework”.

Environmental codes, as important determinants of corporate social responsibility, are “accompanied” by the codes of ethics (principles), which has already been discussed. Ethical principles promote: general ethical principles of business, ethical standards between management and employees, ethical standards between companies and other stakeholders. The concept of socially responsible corporate governance is affirmed. Although the ethical principles and codes of corporate social responsibility are not legally binding, it does not mean that they should not be applied. On the contrary, as a “moral obligation” of companies, they remind marketing managers to act in the spirit of ethical principles. For example, after large-scale disturbances that led to the collapse and series of scandals in companies Enron, WorldCom, Global Crossing, Tyco, and others, corporate social responsibility found itself on the agenda of UNCTAD in Geneva (on 23 January 2006).

How to reconcile the interests of different stakeholders in the system of corporate social responsibility

In addition to the “standards” of corporate social responsibility, other elements of ethical behaviour also deserve importance, such as: relationship between owners and managers, owners and management board, management and employees, and management

and shareholders. Critical reviews on disrespect of ethical principles have also come to the fore, such as: information asymmetry and the achievement of corporate control over the work of managers. It is no accident, then, that the agenda of the International Organisation for Standardisation (ISO) in 2006 included ethical codes of management, owners, and employees that need to be “standardised” (Bačović, Simić, 2010, p. 25).

The working group ISO/TMB/WG SR (ISO/Technical Management Board/Working Group for Social Responsibility) begins preparations for the adoption of standards of corporate social responsibility, also known as the standard ISO 26 000 (Ćuzović, Sokolov Mladenović & Ćuzović, 2011, p. 420). The adoption of this standard was planned for the end of 2010. However, due to the global economic and financial crisis, this standard got its place in the technical documentation of the Institute for Standardisation of Serbia (IST), but it is still insufficiently applied in the marketing strategy of Serbian companies.

In some EU countries, corporate social responsibility is institutionalised in the form of codes. True, they are not legally binding, but it does not mean that they do not apply. A good example is the United Kingdom, which, among the European countries, has the longest tradition in the implementation of corporate social responsibility, and its narrow segment, socially responsible corporate governance. Socially responsible corporate governance in the EU has taken on the “binding” character after the great global financial and economic crisis. This practice came to light after the global financial crisis which started in 2008. Developers of financial markets and managers of financial institutions are aware of the existence of: Law on Securities, Law on Stock Exchange, and other laws which further regulate this segment of business. However, ethical principles and the principles of corporate social responsibility are not left aside. This is understandable if we recall the words of Valtazar Bogišić, saying “that for all the laws, we sometimes do not see justice”.

In Serbia, the Law on Companies (2004) prescribes the minimum content of the code of corporate governance: standards in terms of level of education, accountability of directors, determining the compensation of directors, procedures for appointing members of the board of directors, procedures for appointing members of the management board, election and dismissal of chief executive officers. The law provides for the obligation of the management board to adopt a code of corporate governance, which is desirable, but not legally binding. Realising the seriousness of this segment of harmonisation of our economy with the EU requirements, Chamber of Commerce and Industry of Serbia in 2005 adopted a document entitled (www.pks.rs) “Code of Business Ethics”, which is a kind of code of corporate social responsibility. These examples show that our corporate social responsibility is gradually becoming harmonised with the requirements of trade and corporate policies of the EU.

Conclusion

Globalisation is the process of spreading the interdependence of countries and regions as a consequence of the dynamic development of economic, cultural, environmental, political, and other relations, and, thus seen, stands for an issue that has been on the agenda of scientific community in the last 10-15 years. What happens is the entanglement of flows of goods and services, capital, labour, technology, innovation, and information. Under such circumstances, the consumer gets the epithet global. Trading companies compete on how to best meet the needs of globally oriented consumers. However, their business on the global market cannot happen haphazardly. This involves developing the concept

of corporate social responsibility, as an added component of competitive recognisability and enhanced business performance. The aim of this study has been to examine different aspects of corporate social responsibility of trading companies under conditions of market globalisation. The analysis has started with the consumer, as the starting point of corporate social responsibility. Furthermore, the focus has shifted to the changes in marketing under conditions of new digital economy and the needs of development of global marketing. In particular, the necessity of the application of business ethics in the marketing concept of modern companies is highlighted, as well as the problem of reconciling the interests of different stakeholders in the system of corporate social responsibility. One of the positive examples is the adoption of the standard ISO 26000, which defines corporate social responsibility as a moral obligation of companies. In addition, in certain EU countries, corporate social responsibility is institutionalised in the form of codes. When it comes to the Republic of Serbia, the Law on Companies provides for the minimum content of the code of corporate governance. Activities of the Chamber of Commerce and Industry of Serbia in the process of adopting the “Code of Business Ethics” refer to the fact that our country is in the process of gradual harmonisation of corporate social responsibility with the demands of trade and corporate policies of the EU.

References

- Baćović, I., Simić, V. (2010). *ISO 26000-Perspektive razvoja menadžment sistema*. Poslovna politika, br. 2, 22-25.
- Blythe, J., Zimmerman, A. (2005). *Business to Business Marketing Management: A Global Perspective*. Thomson. London.
- Buzzell, D. (1982). Can You Standardise Multinational Marketing. *Harvard Business Review*, Vol 11-12, 55-65.
- Ćuzović, S. (2010). *Menadžment kvalitetom u trgovini*. Ekonomski fakultet. Niš.
- Ćuzović, S., Sokolov Mladenović, S. (2008). Implications of ethics in the trade internationalization process, *International Scientific Conference Competitiveness in conditions of a global economy*, pp. 109-121. Faculty of Economics Niš.
- Ćuzović, S., Sokolov Mladenović, S., Ćuzović, Đ. (2011). A new approach of the European union internationalization of the quality system. *TECHNICS TECHNOLOGIES EDUCATION MANAGEMENT (TTEM)*, 6 (2), 415-422.
- Ćuzović, S., Sokolov Mladenović, S., Ćuzović, Đ. (2012). Information and communication technologies in the function of creating a global market and the internationalisation of trade. *International Conference SYMORG 2012*, pp. 953-961. Zlatibor.
- Ćuzović, S., Sokolov Mladenović, S. (2013). Trade in Terms of Ecological Economics. *The volume “Challenges for the Trade of Central and Southeast Europe”*. *International Business&Management*. Emerald, United Kingdom, pp. 29-37.
- Elzesser, J. (2009). *Nacionalna država i fenomen globalizacije*. Jasen. Beograd.
- Ghauri, P., Cateora, P. (2006). *International Marketing*. McGraw-Hill. New York.
- Hovell, J., P., Walters, P.G. (1992). International Marketing Presentations: Some Options, *European Journal of Marketing*, 6 (2), 22-40.
- Kantino, V. (2007). *Korporativno upravljanje, merenje performansi i normativana usaglašenost sistema kontrole*. Data status. Beograd.

- Keegan, J., Worren, J. (1989). *Global Marketing Management*. Prentice Hall. New York.
- Kotler, P. (2011). *Principles of Marketing*. Prentice Hall. New York.
- Krugman, P. (2010). *Povratak ekonomije depresije i svetska kriza 2008*. Heliks. Beograd.
- Lajović, D. (2013). *Biznis etika*. Ekonomski fakultet. Podgorica.
- Law on Companies of the Republic of Serbia, Official Gazette of the Republic of Serbia, No.125/2004.
- Lewis, K.D. Chairman and CEO of Bank of America, (Boston Globe, 2006).
- Ministry for the Protection of Natural Resources and Environment of the Republic of Serbia. (2002). Belgrade.
- Mintzberg, H. (2000). The Case for Corporate Social Responsibility. *Journal of Business Strategy*, 4(2), 65-74.
- Papavassilou, N., Stathakopoulos V. (1997). Standardisation versus Adaptation of International Advertising Strategies: Towards a Framework. *European Journal of Marketing*, 28 (7-8), 44-60.
- Petrović, E. (2008). Strategija kompezacije izvršnih menadžera korporativnog preduzeća. *Tematski zbornik Razvijanje konkurentske prednosti preduzeća u Srbiji u uslovima evropskih integracija-Knjiga 2*, str.80-90. Ekonomski fakultet, Niš.
- Plevnik, J. (2003). *Iza globalizacije*. Golden marketing. Zagreb.
- Schlegelmich, B. (1998). *Marketing Ethics: An International Perspective*. Thomson. London.
- Sethi, S.P. (1997). Dimensions of Corporate Social Performance: An Analytical Framework for Measurement And Analysis. *California Management Review*, 17 (Spring), 62-72.
- Sorenson, Z. (1984). “How Multinationals View Marketing Standardisation. *Harvard Business Review*, Vol. 4, 15-23.
- Turban, E., Mc Lean, E., Wetherbe, J. (2003). *Informaciona tehnologija za menadžment (Transformisanje poslovanja u digitalnu ekonomiju)*. Zavod za udžbenike i nastavna sredstva, Beograd.
- www.pks.rs (20.10.2014.)

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SCIENTIFIC REVIEW ARTICLE
Received: August 27, 2014
Accepted: October 06, 2014

THE ADJUSTMENT OF DEVELOPING STRATEGIES OF DOMESTIC ENTERPRISES UNDER THE CONDITION OF GLOBAL BUSINESS

Abstract

In order for a small country, such as Serbia, to be included in the trends of the modern world market primarily depends on the quality of the functioning of domestic enterprises as leaders of the economic integration. This serious and responsible task should enable domestic enterprises to handle international competition successfully. Having that in mind, this paper emphasizes the need for creating and strengthening the international business orientation of Serbian enterprises which function in conditions of the world economic crisis.

Key words: *global environment, international competition, managers, enterprises, innovation.*

JEL Classification: L12, M54

ПРИЛАГОЂАВАЊЕ РАЗВОЈНИХ СТРАТЕГИЈА ДОМАЋИХ ПРЕДУЗЕЋА УСЛОВИМА ГЛОБАЛНОГ ПОСЛОВАЊА

Апстракт

Успех укључивања једне мале земље, као што је Србија, у токове модерног светског тржишта зависи, пре свега, од квалитета функционисања домаћих предузећа као лидера економске интеграције. Овај комплексан и одговоран задатак и процес треба да оспособи домаћа предузећа да се суоче са међународном кокуренцијом. Имајући то у виду, у овом раду се наглашава потреба за стварањем и јачањем међународне пословне оријентације српских предузећа у условима светске економске кризе.

Кључне речи: *глобално окружење, међународна конкуренција, менаџери, предузећа, иновације.*

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Introduction

The quality of functioning of domestic enterprises and their integration into the international business environment greatly determine the efficiency of functioning of the Serbian economy in modern international economic relations. Reintegration of domestic enterprises is a complex and responsible task, that is, a process in which enterprises should be trained to successfully compete on the international market.

The development dimension and internationalization of business demand that enterprises, from the dominant view on the domestic market, take part more in international business activities. It is necessary for them to be innovative in order to be successful in this. The ability of management and leadership to recognize the demands of the target markets and react to competitors' actions in a flexible way will determine the success of the whole business mission of domestic enterprises.

1. The need for strengthening the business orientation of domestic enterprises

Besides the difficulties caused by the current economic crisis, the aggravating circumstances which are in the way of including domestic enterprises into the trends of international economy are also linked to their long-term absence from the global market as a consequence of international isolation of our country and armed conflicts. In such conditions, international markets were inadequately treated in the growth and development strategy of our enterprises. The management of companies viewed the events on the global market from a great distance and therefore were not seriously dedicated to the analysis of international competition. That determined the absence of serious selectivity in choosing international markets and market segments, which lead to expressing one-sidedness in choosing the forms of international business.

Suspension of economic sanctions enabled international appearance of our enterprises and their involvement in the process of European integrations. In such conditions, domestic companies need to accept the radical changes in the way of business functioning, which implies the implementation of complete market transformation, adjustment to the changes, accepting new ideas and quick response to the impulses from the environment.

Globalization of the world economy and strengthening of the process of European integration impose changes in the manner of business thinking in the sense of accepting the fact that 'changes are permanently needed', that is that 'those who do not innovate necessarily disappear from the economic scene'.

In such a changed economic environment, the innovativity of enterprises is a necessary condition for successful functioning with the goal of realizing long-term business success, that is, profitability and competitiveness. The crucial factor in the competitiveness of an innovative enterprise are innovations which represent its strategic resource. The innovation complex is in essence represented by: new products, new production technologies, opening new markets, introducing new resources and raw materials, new organization of economic activities.² Willingness to change (adaptation) becomes the basis for successful management and training an enterprise for successful functioning on the global market, which implies the following:

² Schumpeter, J. 1939. *Business Cycles*, New York, McGraw Hill, pp. 87-88.

- identification and introduction of changes in an organizational structure,
- changes in the production and market strategy,
- changing the strategies of enterprise development and management and
- using human resources and other resources – using knowledge, employee training.³

2. Strategic management approach and international competitiveness

International business orientation of our enterprises must acknowledge the *strategic management approach*. This is necessary not only to adjust to the current changes in the global business environment, but also in order to overcome internal limitations of the organization growth. Consequently, it is necessary that the selection of possibilities on international markets, modes of entry, type of presence on an international market and resource allocation contribute to the realization of the strategy mission and long-term development goals of an enterprise. The development dimension and internationalization of business demand from the enterprises to be engaged more in international business activities than to be dominantly oriented towards the domestic market. This engagement evolves over time through phases of export, multinational and finally *global orientation*. Thereby, the success of the whole business mission of domestic enterprises will depend on the abilities of management and leadership to recognize the demands of target markets and react to competitors' actions in a flexible way. In order for our enterprises to be internationally oriented and competitive, it is necessary to:

- adequately treat international market in the enterprise growth and development strategy:
 - eliminate systematic (continuous) segregation of business conditions on the domestic market in comparison to the international market;
 - respect economic interest in defining target functions of an enterprise on the global market (export and not product surplus).
- selectively approach defining internationally promising products:
 - export of as many of those products which pass (in relation to the demands and standards, that is, quality).
- establish direct contact with international consumers on target market segments.
- selectively approach the choice of a market and market segments (the choice of the most attractive target markets)
- have an adequate relationship to competitiveness:
 - accepting national loyalty towards competitors from the country (eliminating a defensive approach and subordinate position in relation to international competition),
 - cooperation in export, mutual competitive connecting and mutual processing of international markets are necessary,
- opt for versatility in using certain forms of international business:
 - overcoming traditional export by increasing long-term productive cooperation (by compensation affairs, by-back affairs and border traffic),
 - create conditions for mutual investments and direct investments.

³ Yukl G., (1998) “*Leadership in Organizations*“, 4th edition, Prentice – Hall International, Inc., Upper Saddle River, New Jersey, pp. 102-104

- overcome the gap between potential and effective competitiveness:
 - realistic assessment of the productive-technological and market positions (in relation to competitive enterprises from other countries),
 - increasing the degree of production capacity according to global standards and demands of customers (quality, delivery deadlines, functionalities, price competitiveness),
 - increasing competitiveness (the degree of product novelty, originality, design, packaging).
- stimulate inventive and creative work:
 - improve the treatment and position of scientific research and creative work (with the aim of accepting new ideas and concrete inventions),
 - increase the degree of product novelty by originality and design.
- eliminate negotiating and price inferiority:
 - adjusting price levels to global standards (with the policy of real exchange rate of the dinar and stimulative measures of economic policy;
 - respecting the non-price factors of competitiveness.
- establish an adequate relation towards promoting activities (public relations, advertising, fairs and exhibitions and personal sale abroad). Better presentation of domestic products and better recognition on the international market will not be reached unless product quality and their versatile promotion are not improved.

Unfavorable position of our economy on the international market also demands radical *changes of the national business image*. Globalized business environment imposes on domestic enterprises the responsibility to present their own potentials to the world public which can be a part of international cooperation. A more favorable view of the domestic products and their better recognition on the international market will not be reached unless there is no *versatile promotion* besides improvement of their quality. In that sense, such activities must be backed by active measures of the state directed towards building a more favorable image of the country, improvement and promotion of export and international affirmation of domestic enterprises.

In order to increase competitive abilities and more successful overcoming of external obstacles, it should also be insisted on the formation of *export marketing groups* (consortium) which imply joint appearance of legally and economically independent companies on the markets of third world countries. This type of export corresponds, first of all, to small and medium-sized enterprises which cannot independently reach the desired export strength in size and potential. Therefore, the help of the country to this group of enterprises needs to be the most significant. International business appearance of domestic enterprises must, therefore, be supported by the national economy, that is, the state, but it must primarily be based on management abilities to create and apply the internationalization strategy as a primary strategy of growth and development of an organization in global conditions of business.

3. Global environment and adjustment of development strategies

Our enterprises have not adjusted their own development strategy to the conditions of the growing trend of business globalization and the future of our enterprises is even more uncertain if they are still nationally oriented, despite the intensive globalization of the branch of activity where they do business. Creating efficient and adequate strategies

is impossible without: collecting information about the global environment, competition, markets, research (general or applied), ideas and development, finding solutions...).⁴ Information is of crucial importance especially if an organization accesses the global market for the first time.⁵

The reasons for an unfavorable international position of our economy and organizations can be found withing *internal and external factors*. Internal factors primarily refer to the application of an inadequate global strategies of our enterprises, which in an inasequate way represents to the global public their potential for international cooperation. When speaking about external factors, it should be emphasized that the functioning of our economy in the conditions of isolation during the last decade of the twentieth century, as well as armed conflicts certainly have not contributed to its positive publicity abroad. Therefore, our country is expected to undertake the necessary efforts in the direction towards improving the image of domestic economy in order to send a clear message to the world that we want to build an economic environment which will guarantee safety of business conditions.

Adjusting development strategies of domestic enterprises to the conditions of global business must be, as previously said, sinchronized with the activities of the country in relation to the improvement and promotion of export in order to create the image of a national economy with an international character. The contribution of international recognition of our organizations can come from influential people or friendly companies of other national economies which would promote through their attitudes the place and role of our enterprises on an international level.

The existance of a high level of risk which implies appearance on the global market by domestic enterprises, demands a very careful choice of forms of entering global processes. Domestic companies with greater economic strength can more successfully be involved in international competition than those companies whose strength and resources are on a lower level. Smaller domestic companies should choose a form of entry which demands less expenses and risk, that is, a form which separates them among several partners.

4. Chances and dangers for domestic enterprises

The changes of the global market environment in modern conditions lead to constant increase in the number of market participants and strong strengthening of competition. Only active participants that have an initiative and are capable of doing business according to the market rules and principles can count on an adequate treatment and favorable market perspective in such conditions. Domestic economic participants in the described environment must greatly respect the changes because the times of enterprises being attached to the domestic market as the basic one are definitely part of the past times.

In order to train their enterprises for continuous, radical adjustment to the emerging conditions, managers must redefine the business strategy and then redesign the organizational structure. When redefining the strategic commitment, our enterprises need to start from the European and world market as the business horizon despite their size and power.

In the initial phase of internationalization, our enterprises should use the forms of mutual arrangements with local partners and upon obtaining optimal experience can

⁴ Gallouj, F. 2002. *Interactional innovation – A neo-Schumpeterian model*, u Sundbo, J. Fugang, L. *Innovation as Strategic Reflexivity*, Routledge, London and New York, pp. 35-36.

⁵ Douglas P. S., C. S. Craig,, (1997) Глобална маркетинг стратегија, ПС Грмеч, Београд, стр. 123

become more independent by repurchasing the capacities of the local partner, by founding their own branches etc. Besides the chances given by the global market, domestic enterprises can face numerous dangers. Dangers of globalization can be defined through:

- creating dependency,
- reducing management creativity,
- loss of corporate identity,
- weakening its own brands,
- decreasing utility of the obtained experience,
- loss of possible higher profits,
- loss of market share on the domestic market.⁶

Creating dependency, as one of the dangers domestic companies can face, may result in case of their connection according to long-term mutual arrangements with global companies. In such situations, possible termination of business relations with partners from abroad can lead to the reduction of future capacities of domestic enterprises to adequately react to the changes.

Long-term connection of domestic companies to global companies influences the weakening of creativity and innovativity of domestic managers. Implementation of their business activities, the creation of which they do not fully participate in, certainly is demotivating for their activity.

The loss of corporate identity is also a danger for domestic companies in global conditions of business. It can emerge as a consequence of small possibilities of identification of domestic enterprises on international scales.

Weakening its own brands of products is also a danger, having in mind the fact the dominant engagement of domestic enterprises in the production of foreign products can lead to the loss of identification of the names of enterprises and their products within national frameworks.

Having in mind the fact that dynamic, aggressive and innovative management is a framework for successful appearance of a company on the global market, the decreasing utility of marketing and management experience of domestic companies (which can arise because they are internationally famous and are not innovative), also presents a danger for successful international appearance. Namely, initial success can lead an enterprise into a stable but, at the same time, uncompetitive position because the way of thinking of management strengthens old habits, stops new ideas and creates inflexibility. In that case, an enterprise has highly developed technology but it is not competitive because it lacks innovativity.

5. The need for creating global leaders and managers in our country

Having in mind the role of leadership and management in modern conditions of business, it is obvious that in conditions of transition, there is a growing need for *global leaders and managers in our country*. Modern domestic enterprises do business in radically new conditions which demand new knowledge and abilities of managers and leaders, as well as the awareness of inevitability of radical changes of the strategy and structure.

The business environment of our country demands *inventive and creative leaders* who manage knowledge and information, ensure entrepreneurial atmosphere and

⁶ Ерић Д., (2000) “Увод у менаџмент“, Чигоја штампа, Београд, стр. 234.

create organizations based on teamwork. Problems that arise from quick transitional, organizational changes in which a great number of people participate can be quickly overcome if there are change leaders who are capable of inspiring and motivating the employed. In contrast to this, nowadays managers, in its original, traditional sense, who manage linear organizations and people, are needed less. In the new environment, there is no place for such managers. Managers who think that they can manage a process only if they control the subordinate in a linear organization and feel lost in modern, virtual, team organizations can be good managers at a lower level but not at all modern leaders. Equally, managers who exchange opinions build a strategy and make decisions for colleagues on the same level and do not include the employed from the organization which they are managing, will never be good leaders that will be partners with their associates – partners who share both the risks and the responsibilities, as well as successes and failures.

Changes, internalization and modernization of the business process to real leaders in our country must come first, which means that they should think less about internal organizational issues, such as hierarchy, procedures and internal goals and think more about how to reach high values, better and faster than their competitors. True change leaders certainly use formal structures for communicating and determining priorities, but in reality they must depend on other options in order to reach their goals. Most traditional managers avoid risk in affairs which are beyond their formal areas of responsibility and are reluctant to cross formal limits. Risk is part of all affairs and those not ready to risk cannot realize significant results. In contrast to traditional leaders, modern global leaders must always look for new opportunities for crossing the organizational limits if that is the way to accelerate changes and accept new initiatives.

If taken into account the fact that in conditions of transition of the economy of the Republic of Serbia a great number of global organizations take investment steps in our countries, then it is clear that in such an environment only those domestic managers that positively and fearlessly view the changes and those who constantly direct their activities towards entering world integration flows can be present in the future. Arrival of managers and leaders from abroad certainly brings significant qualitative changes in the system of managing organizations which perform their business activities on our territories. On the other hand, that presents a great basis for active incitement of the process of creation and development of domestic leaders and managers. If our response to such changed economic circumstances is based on respecting change and active management of changes, then Serbian management will have an opportunity to become a moving force which will direct domestic economy towards improving general economic efficiency and creating a business environment in which leaders and managers will greatly contribute to the business success of organizations and the overall economic progress.

Conclusion

The difficulties faced by our economy, as well as global trends in the field of market globalization, impose many urgent challenges which must be fulfilled. In these new circumstances, the management of domestic companies is expected to search for competitive advantages, that is, to be eager to adapt to continuous change. Developed countries should be taken as an example, where there is an impressive innovation development and which affect less developed countries in a positive way. Without firm integration into the world market trends, our enterprises cannot resolve their own problems, and the absence of capability to identify the chances and dangers of a global

environment can seriously impact their significant appearance on the international market.

References

- Deresky H., (2003) *“International Management – Managing Across Borders and Cultures”*, 4th edition, Prentice Hall, Upper Saddle River, New Jersey
- Certo S.C., (2000) *“Modern Management”*, 8th edition, Prentice Hall, Upper Saddle River, New Jersey
- Dessler G., (1998) *“Management: Leading People and Organizations in the 21st Century”*, Prentice Hall, Upper Saddle River, New Jersey
- Douglas P. S., C. S. Craig., (1997) *Globalna marketing strategija*, PS Grmeč, Beograd
- Д. Ђурић, Др. Ђурић, (2005) *Менаџмент глобалних оирганизација и међународно инвестирање*, Економски факултет Приштина – Косовска Митровица.
- Грандов З., (2000) *Спољнотрговинско пословање*, Верзал, Београд
- Ерић Д., (2000) *“Увод у менаџмент”*, Чигоја штампа, Београд
- Ракита Б., (1998) *Међународни маркетинг*, Економски факултет Београд и Глобмарк, Београд
- Hodgetts R.M. and Fred Luthans, (2003) *“International Management – Culture, Strategy and Behavior”*, Fifth edition, McGraw – Hill Irwin
- Yukl G., (1998), *“Leadership in Organizations”*, 4th edition, Prentice – Hall International, Inc., Upper Saddle River, New Jersey
- Поповић, П., (1998) *Глобализација економска сувереност*, Пословни круг, Београд
- Schumpeter, J. (1939.) *Business Cycles*, New York, McGraw Hill.
- Gallouj, F. (2002.) *Interactional innovation – A neo-Schumpeterian model*, u Sundbo, J. Fugang, L. *Innovation as Strategic Reflexivity*, Routledge, London and New York.

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SCIENTIFIC REVIEW ARTICLE

Received: July 14, 2014

Accepted: October 09, 2014

AN OVERVIEW OF THE EFFECTS OF JOB STRESS ON EMPLOYEES PERFORMANCE IN NIGERIA TERTIARY HOSPITALS

Abstract

This research work was carried out to appraise Job stress and performance of employee in an organization. One of the organizational outcomes that are affected by occupational stress is performance. Employees' performance can be viewed as an activity in which an individual is able to accomplish the task assigned to his/her successfully, subject to the normal constraints of reasonable utilization of the available resources.

The focus of this study is to appraise the cause of stress, the effect on employee performance, how workers identify those stress factors and react to the factors.

The data of study was collected through the use of Primary and Secondary sources by administering questionnaires, personal interviews and information was extracted from relevant journals and statistical bulletins.

The descriptive method was used to analyze the data with aid of frequency and percentage for the research objectives.

From the findings it was discovered that work overload, career development and work/family conflict are considered to likely cause a disruptive effect on performance of workers. The study reveals that workers performance were affected by the following factors; tiredness, worry, unhappiness, weakness, headache, and anger.

Based on the findings of this study, the study concluded that job stress has significant effect on employees' performance.

Keywords: *Performance of employees, job stress, Nigeria.*

JEL Classification: I15, J21, J29

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ПРЕГЛЕД ЕФЕКТА РАДНОГ СТРЕСА КОЈИ УТИЧЕ НА УЧИНАК ЗАПОСЛЕНИХ У НИГЕРИЈСКИМ ТЕРЦИЈАЛНИМ БОЛНИЦАМА

Апстракт

Ово истраживање је спроведено на основу процене стреса и учинака рада запосленог у организацији. Једна од организационих исхода је да су радници погођени стресом на раду који свакако утиче на њихов учинак. Учинак запослених може се посматрати као активност у којој је појединац у стању да оствари задатак додељен њему / њој успешно, под нормалним ограничењем уз разумно коришћење расположивих ресурса.

Фокус ове студије је да се процени узрок стреса, утицаја на учинак запослених, како радници идентификују факторе стреса и како реагују на те факторе.

Подаци истраживања су прикупљени кроз коришћење примарних и секундарних извора давањем упитника, интервјуа и личних информација које су преузете из релевантних часописа и статистичких билтена.

Дескриптивни метод је коришћен за анализу података уз помоћ учесталости и процентиима за циљеве истраживања.

У истраживању је откривено да рад радника представља преоптерећење, утиче на развој каријере и рад / породични сукоб се сматрају да вероватно изазвају реметилачки ефекат на учинак радника. Студија открива да су учинци радника под утицајем следећих фактора: умор, забринутост, туга, слабост, главобоља и бес.

На основу налаза овог истраживања, студија је закључила да стресна послу има значајан утицај на учинак запослених.

Кључне речи: *Учинак запошљених, стрес на послу, Нигерија.*

Introduction

Occupational stress is commonly acknowledged to be a critical issue for managers of organizations as occupational stressors tend to contribute to organizational inefficiency, employees are under a great deal of stress related to a variety of occupational stressors. Occupational stressors contribute to organizational inefficiency, high staff turnover, absenteeism due to sickness, decreased quality, and quantity of practice, increased costs of health care, and decreased job satisfaction. One of the organizational outcomes that were affected by occupational stress is performance. Job stress is a mental and physical condition, which affects an individual's productivity, effectiveness, personal health and quality of work. Job stress victims experience lowered quality of work life and performance. The harmful and costly consequences of stress demonstrate the need for strategies to limit stressors within the organization. Organization that does not adopt strategies to alleviate stress may find their employees looking elsewhere for better opportunities. The impact of stress from overwork, long hours at work and work intensification has had major and often devastating effect on organizations of developed nations (Reese 1995).

The process of restructuring, downsizing and re-engineering have helped companies to become lean, but not without great costs. Employees are experiencing more

stress and uncertainty because companies got leaner without building their ‘muscle’. Just like going on a diet without exercising. The organization weigh less but the percentage of fat which manifests as high stress, low morale, and less optimal productivity has actually increased. Some organizations have even become anorexic. They are too lean, but because they think they are fat, they continue to “diet”.

A study by North Western National Life Insurance Co. concluded that job stress is generally a consequence of two ingredients: a high level of job demands and little control over one’s work. Many of today’s workers are finding their jobs more stressful than they were simply because they are working too many hours. The study concluded that “where employees are empowered, where they have more control over how they perform their work reduces the risk of stress and burnout considerably”(Froiland, 1993).

This work was supported by Umiker (1992) which showed that “...individuals who feel that they are in control of their jobs and their future are better able to handle stress. Also that these empowered workers become more productive out of being in control” (Umiker, 1992). A study conducted by Bushe (1996), reported increased productivity and efficiencies from being empowered, measured by reported increased customer performance and innovation. Further, stress was reduced when a person did not have to report to someone daily any longer. By empowering employees, they took upon themselves control over their work giving them a higher sense of accomplishment, this was found regardless of occupational grouping.

1.1 Statement of the problem

Every organisation puts up structures, resources and places such as in the hands of a manager with a view to set a structure to earn profit. Structures like the organisational chart, Organogram, Management by Objectives; Unity of command/unity of loyalty to mention a few is put up. Resources include human, material, financial information technology and all others within the organisation that are set up in such a way to achieve maximum profit with minimum costs and conflicts. In an atmosphere devoid of stress, there is none without some percentage of stress to the employee.

Stress could generate from factors that are internal or external to the organisation or total. Even when the organisation tries to create an atmosphere of industrial peace and harmony so that production can go with minimum conflict, there seems to be no organisation which is completely free of stress.

Stress in the workplace has been noted to usually have adverse consequences on socio-economic and cultural development in a growing economy like that of Nigeria, this cannot afford to continue as it could ruin the industrial and organisation life thus affecting the growth of the country. Hence this study examined what causes stress within an organisation, and the corresponding effects on employee’s performance.

1.2 Objectives of the study

The general objective of the study is to determine the effects of stress on employees’ performance using Seventh-day Adventist Hospital, Ile-ife, Osun State of Nigeria as a case study. The specific objectives of the study are to:

1. Determine what constitutes stress at work?
2. Examine the effects of employees’ job stress on performance.
3. Examine how workers cope with stress factors at work.

Review of related literature

Job stress in organizations is widespread. More than half of all Nigerian workers feel the pressure of job related stress. Extensive research shows that excessive job stress can adversely affect the emotional and physical health of workers.

2.1 Concept of job stress

Arnold and Feldman (2000) define stress as “the reactions of individuals to new or threatening factors in their work environment”. Since our work environments often contain new situations, this definition suggests that stress is inevitable. This definition also highlights the fact that reactions to stressful situations are individualized and can result in emotional, perceptual, behavioural and physiological changes.

McGrath (1976) proposed a definition based on the conditions necessary for stress. So there is a potential for stress when an environmental situation is perceived as presenting a demand that threatens to exceed the person’s capabilities and resources for meeting it, under conditions where he expects a substantial differential in the rewards and costs from meeting the demand versus not meeting it. McGrath’s definition implies that the degree of stress is correlated with a person’s perceived inability to deal with an environmental demand. This would lead to the conclusion that a person’s level of stress depends on their self perceived abilities and self confidence. Stress is correlated with a person’s fear of failure.

According to (Rose 2003) employees have tendency towards high level of stress regarding time, working for longer hours which reduces employees urge for performing better. Management support helps in reducing or increases stress in employees (Stamper & Johlke, 2003), apparent organizational assistance, management support work as a cushion which acts positively in decreasing work related stress in employees. There are a lot of reasons causing stress work, family conflicts, work over load are the reasons indentified by (Stamper & Johlke, 2003) that if the organization or management does not appreciates its employees for their hard work or contribution toward the organization creates stress and apparently creates intention to leave.

Semmer (1984) and Leitner, Volpert, Greiner, Weber, and Hennes (1987) proposed a taxonomy of stressors based on action theory, this taxonomy clusters stressors on the basis of how they disturb the regulation of goal-oriented action. Specifically, this taxonomy differentiates between regulation obstacles, regulation uncertainty, and overtaxing regulations. Regulation obstacles such as interruptions or organizational constraints make action regulation more difficult if not impossible for the employees.

Stress in organizations affects both the individual and the organization (e.g., increased turnover rates). Individuals can be affected at the physiological, affective, and behavioral levels, and in their leisure time and family life. Stressors affect individuals and organizations within different time frames, stress reactions can occur immediately (short-term reactions) and or may take longer time to develop (long-term reactions). With respect to physiological responses, stress has an effect on the cardiac system. For example, individuals in so-called high-strain jobs (i.e., job with high demands and low job control, Karasek, 1979) show higher blood pressure than individuals in other types of jobs (Schwartz, Pickering, & Landsbergis, 1996).

Also heart rate increases in stress situations (Frankenhaeuser & Johansson, 1976). Moreover, experiencing stressful work situation is associated with increased levels of cholesterol and other metabolic and homeostatic risk factors for cardiovascular disease (Vrijkotte, van Doornen, & de Geus, 1999).

The experience of stress is associated with affective reactions. In the short-term, mood disturbances can occur (Zohar, 1999). Such affective reactions seem to result mainly from specific aversive events and stressful achievement settings (Pekrun & Frese, 1992; Weiss & Cropanzano, 1996). In the long run, well-being and mental health can suffer. There is evidence from longitudinal studies that stressful work situations are associated with an increased level of depressive symptoms (Schonfeld, 1992), psychosomatic complaints (Frese, 1985; Parkes, Menham, & Rabenau, (1994) and other distress symptoms (Leitner, 1993).

Ivancevich & Donnelly (1975) studied the link between anxiety stress with satisfaction and performance of employees, that lower anxiety stress improves performance of employee's which he studied in different managerial level of an organization. (Beehr, Jex, Stacy & Murray, 2000) found the relationship between occupational stressors and the performance of employees of an organization as well as how it can affect the employees psychologically.

Jamal, (1984) studied an association between job stress and performance between managers and blue-collar employees. Stress on job can be stated as the outcome of an individual due to the working environment from which he feels unsecured.

2.2 Theoretical frame work for analysis.

These are the theories that support job stress, below are different school of thoughts that postulated several theories on job stress with concentration on those models that have been influential in past theorizing and empirical research.

The Transactional Stress Model; One the most prominent models which on stress process is the transactional model by Lazarus, 1966; Lazarus & Folkman, 1984. Lazarus and Folkman define psychological stress as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being”. Thus, Lazarus and Folkman assume that cognitive appraisals play a crucial role in the stress process. Appraisal processes refer to an individual's categorization and evaluation of an encounter with respect to this individual's well-being.

Specifically, primary and secondary appraisal can be differentiated. By primary appraisal, encounters are categorized as irrelevant, benign-positive or stressful. Stress appraisals comprise harm/loss, threat, and challenge. By secondary appraisals, individuals evaluate what can be done in the face of the stressful encounter, they tax their coping options. On the basis of primary and secondary appraisals, individuals start their coping processes which can stimulate reappraisal processes.

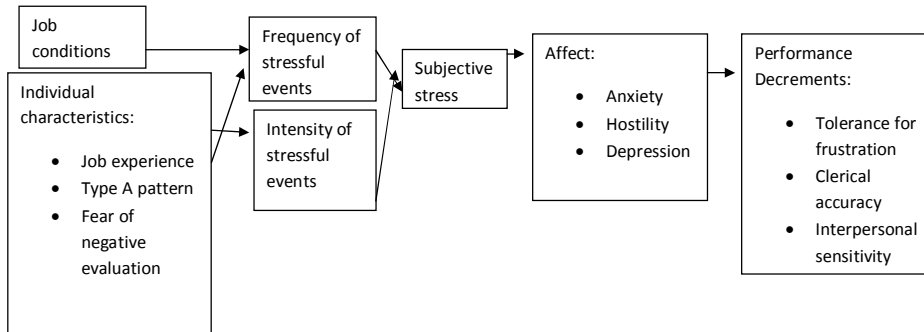
To arrive at a better understanding of the stress process and how it develops over time, Lazarus (1991) suggested putting more emphasis on an intra-individual analysis of the stress phenomenon, for example by studying the same persons in different contexts over time. A few studies followed such an approach (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986), the majority of empirical studies in the area of organizational stress however, did not adopt such a process perspective but treated stressful situations and individuals' reactions to them as stable. Moreover, it has been questioned whether a focus on individual processes offers much to the understanding of workplace stress (Brief & George, 1995).

Crucial components in Carver and Scheier's model are an input function, a reference value, a comparator, and an output function. The input function refers to perceptions of one's own state or of situational features in the environment. The reference value comprises the individual's desires, values, or goals. The comparator compares the

input function with the reference value. The output function refers to behavior which is activated when a discrepancy between the input function and the reference value is detected.

2.3 Conceptual model

Figure 1.Prel



Preliminary model of the causes of occupational stress and its consequences for job Design by: Stephan J. Motowidlo, et al 1986.

This model presumes that:

(a) Subjective stress leads to affective states such as anxiety, hostility, depression and to decrements in aspects of job performance, and

(b) Stress is caused by specific events that occur at work. The more frequent and the more intensely stressful the events are for an individual, the greater the level of subjective stress.

Job conditions partly determine the frequency with which these events occur. Individual characteristics such as job experience, Type A behavior pattern and fear of negative evaluation also determine their frequency as well as the intensity of their stressfulness for individuals. The model presumes also that subjective stress generates anxiety, hostility, and depression which, in turn, affect components of performance such as tolerance for frustration, clerical accuracy, interpersonal sensitivity, and altruism.

2.4 The effects of stress in a job

Research in organizational behaviour has shown that an individual could suffer from significant health complications - backaches, headaches, gastrointestinal disturbances, anxiety and depression amongst others - if subjected to stress over a long time. Behavioural changes in the form of excessive tobacco smoking and alcohol consumption, nervous disorders, heart diseases, diabetes, obesity etc are also related to stress. Job dissatisfaction is known to lead to job stress, which in turn reduces the productivity (Madeline, 1983).

Varying Degrees of Stress

People in some work places experience more stress vis-a-vis others, particularly those in occupations where workers are required to display emotions like nursing, social work and teaching (Travers and Cooper, 1993, Cooper et al., 1999, Kahn, 1993, Young and Cooper, 1999). An extreme form of this stress has been categorized as ‘burnout’, a stage when a person starts treating his clients as objects (depersonalization), evaluates himself negatively and feels emotionally exhausted (Sheena et al, 2005)

Stress is a part and parcel of life and cannot be avoided. However, if used in a gainful way, stress can lead to beneficial outcomes too (Selve, 1973). Research and studies should be directed towards understanding the impact of stress on positive health, growth and well being as proposed by the positive psychology movement (Seligman & Csikszentmihaiyi, 2000). If aptly managed, stress can energize, stimulate and induce growth and productivity in one’s profession. One can accomplish new objectives and there can be positive personal changes (Folkman&Moskowitz, 2004). Further studies and research are required to identify the processes involved in the development of positive and negative emotions (Folkman&Moskowitz, 2004).

The Impact of Stress on Performance

Various studies have been conducted to examine the relationship between job stress and job performance. Job performance can be viewed as an activity in which an individual is able to accomplish the task assigned to him/her successfully, subject to the normal constraints of reasonable utilization of the available resources. At a conceptual level, four types of relationships were proposed to exist between the measures of job stress and job performance (Jamal, 2007). One is a negative linear relationship, when productivity decreases with stress (distress). Productivity can also increase as a consequence of stress, thereby implying a positive linear relationship between the two. Thirdly, there could be a U-shaped or a curvilinear relationship wherein, mild stress could increase the productivity initially up to a peak and then it declines as the person descends into a state of distress. Alternately, there need not be any quantifiable relationship between the two.

Factors that result in job stress

Job stress could be as a result of a number of factors, which can be broadly classified into:

1. External factors relating to organisation and work-family conflicts, and
2. Internal factors. External factors are well described by Cooper and Marshall’s five sources of stress.

Figure 2 The factors inducing job stress



Organisational factors: According to Cooper & Marshall, stress could be due to factors intrinsic to the job, such as poor physical working conditions, work overload or time pressures. Often, one's role in the organization and the ambiguity associated with the job resulting from inadequate information concerning expectations, authority and responsibilities to perform one's role as well as the conflict that arises from the demands placed on the individual by superiors, peers and subordinates could also result in stress. A third factor is the impact of status incongruence, lack of job security and thwarted ambition on one's career progression. Rayner and Hoel (1997) theorized that relationships at work with bosses and colleagues, including bullying in the workplace could result in a lot of stress. At an organizational level, the structure and climate, including the degree of involvement in decision making and participation in office politics could result in a stressful climate.

Stress could be due to factors intrinsic to the job, such as poor physical working conditions, work overload or time pressures.

Additional sources of stress documented in the ASSET model include the impact a person's working life has on their life outside of work (work-life balance), the amount of satisfaction people derive from their work, the degree of control and autonomy people have in the work place, and the levels of commitment in the work place both from the employee to the organisation and from the organisation to the employee (Sheena 2005).

Work family interaction: The rise of families in which both partners are earning and increasing female participation in the sphere of employment has transformed the ways in which couples manage work and family responsibilities. Work and family integration can result in both negative (i.e., work-family conflict) and positive interactions (i.e., work-family enrichment). Work-family conflict and work-family enrichment can occur in either direction - “work-to-family or family-to-work”. Work demands, family demands and work flexibility are recognized to be important determinants of the work-family interaction (Luo Lu et al, 2008).

Personality: Besides external factors, there are internal factors too that can cause stress, like the age of the individual, sex, education and a personality that is deemed Type A or inherently stressful. Type A individuals are competitive, hostile, impatient and hard driving.

Ganster and Schaubroeck (1991) and Kahn and Byosiere (1992) summarized the findings of studies on Type A behavior pattern.

2.5 Symptoms of stress

Selye (1946) was first to describe the phases that the body goes through in response to a threat. The general adaptation syndrome model states that the body passes through three stages.

The first stage is an **alarm reaction**; the body prepares for a potential emergency. Digestion slows down, the heart beats faster, blood vessels dilate, blood pressure rises and breathing becomes rapid and deep. All bodily systems work together to provide maximum energy for fight or flight.

The second stage is **resistance**; if the stress continues, the body builds up a tolerance to its effects. The body becomes habituated to the effect of the stressor; however, the body's adaptive energies are being used as a shield against the stressor.

The third stage is **exhaustion**; when the body's adaptive energies are depleted, the symptoms of the alarm reaction reappear, and the stress manifests itself as an illness, such as ulcers, heart ailments and high blood pressure. During the first or second stages, the removal of the stressor will eliminate the symptoms.

2.6 Causes of stress

Stressors can be divided into those that arise from within an individual (internal) and those that are attributable to the environment (external). Internal conflicts, non-specific fears, fears of inadequacy, and guilt feelings are examples of stressors that do not depend on the environment.

Internal sources of stress can arise from an individual's perception of an environment threat, even if no such danger actually exists. Environmental stressors are external conditions beyond an individual's control. Bhagat(1983) has reported that work performance can be seriously impaired by external stressors. There are many aspects of organizational life that can become external stressors, this include issues of structure, management's use of authority, monotony, a lack of opportunity for advancement, excessive responsibilities, ambiguous demands, value conflicts, and unrealistic workloads. A person's non working life (e.g family, friends, health, and financial situations) can also contain stressors that negatively impact job performance. Thus, emotionally induced stress arises from one's imagination.

Time stress is always created by a real or imaginary deadline. Anticipatory stress is created when a person perceives that an upcoming event will be unpleasant. Situational stress can occur when a person is in an unpleasant situation and they worry about what will happen next. Encounter stress is created by contact with other people (both pleasant and unpleasant),

Adverse working conditions, such as excessive noise, extreme temperatures, or overcrowding can be a source of job-related stress (McGrath, 1978). Reitz, 1987 reports that workers on “swing shifts” experience more stress than other workers. Orth-Gomer (1986) concludes that when three shifts are used to provide around-the-clock production, major disturbances in people may be unavoidable. One source of environmental stress ignored in the organizational literature is non-natural electromagnetic radiation. Becker (1990) reports that the two most prominent effects of electromagnetic radiations are stress and cancers. Modern offices are filled with electronic devices that produce high levels of radiation; these include computers, video, monitors, fluorescent lights, and clocks, copying machines, faxes, electric pencil sharpeners and a host of other electronic devices. Human sensitivity to electromagnetic field is well documented and the design of future office equipment will most likely involve a consideration of emitted radiation.

Personal factors are often a source of stress. These include career related concerns, such as job security and advancement, as well as financial and family concerns. Holmes and Rahe(1967) constructed a scale of forty-three life events, and rated them according to the amount of stress they produce. The most notable feature of their instrument is that many positive life changes (i.e. marriage, Christmas, vacations, etc) are substantial sources of stress. Generally stress appears to be a result of any change in one's daily routine.

Lawless(1991) identified the most common causes of workers stress: Too much rigidity in how to do a job, Substantial cut in employee benefits, a merger, acquisition or change of ownership, requiring frequent overtime and reducing the size of the work force.

Over 40% of the work force experience one or more stress related illness as a result of these five stressors. Single or divorced employees, union employees, women and hourly workers reported greater stress levels and a likely hood of burning out. In a follow-up study, (Lawless, 1992) found similar result except there is no significant difference between married and unmarried workers. However, single women with children were more likely to burn out than married women with children, “Single parenthood compounds

the stress women face in juggling work and child care responsibilities especially when over-time hours are required”

2.7 Managing stress

Managers of organization have a dual perspective of stress, they need to be aware of their own stress levels as well as those of their subordinates, most of the literature focuses on ways of reducing stress, and however, a more appropriate approach might be to examine ways of optimizing stress. French, Kast and Rosenzweig (1985), stated that the challenge is to minimize the stress and maintain a balance. They pointed out that the conditions of organizational life create a series of paradoxes that demonstrate the need for balance and equilibrium.

The role of management becomes one of maintaining an appropriate level of stress by providing an optimal environment and; by doing a good job in areas such as performance planning, role analysis, work redesign/job enrichment, continuing feedback, ecological considerations and interpersonal skills training.

There are essentially three strategies for dealing with stress in organizations (Jick and Payne, 1980): Treat the symptoms, change the person and remove the cause of the stress.

When the person is already suffering from the effects of stress, the first priority is to treat the symptoms, this include both the identification of those suffering from excessive stress as well as providing health care and psychological counselling services. The second approach is to help individuals build stress management skills to make them less vulnerable to its effects. Examples would be teaching employees’ time management and relaxation techniques or suggesting change to one’s diet or exercise. The third approach is to eliminate or reduce the environmental situation that is creating the stress; this would involve reducing environmental stressors such as noise and pollution, or modifying production schedules and workloads.

Many modern organizations view the management of stress as a personal matter. An effort to monitor employee stress levels would be considered an invasion of privacy. However, Lawless (1991) found that nine out of ten employees felt that it was the employer’s responsibility to reduce worker stress and provide a health plan that covers stress illness. She emphasized that “employees have no doubt that stress related illnesses and disability should be taken seriously. Employees expect substantive action by their employer and hold employer financially responsible for the consequences of job stress”.

Managers can take active steps to minimize undesirable stress in themselves and their subordinates. Williams and Huber (1986) suggested five managerial actions that can be used to reduce stress in workers;

- I. Clarifying task assignments, responsibility, authority, and criteria for performance evaluation.
- II. Introducing consideration for people into one’s leadership style.
- III. Delegating more effectively and increasing individual autonomy where the situation warrants it.
- IV. Clarifying goals and decision criteria.
- V. Setting and enforcing policies for mandatory vacations and reasonable working hours.

Establishing one’s priorities (i.e. value clarification) is an important step in the reduction of stress. The demands of many managerial positions cause the neglect of other areas of one’s life such as family, friends, recreation, and religion. This neglect creates stress, which in turn affects job performance and health. Value clarification is linked to

time management, since we generally allocate our time according to our priorities. By setting personal priorities, managers and subordinates can reduce this source of stress.

Research methodology

The study on effect of job stress on employee performance is carried out in Seventh Day Adventist Hospital, Ile-ife, Osun state, Nigeria and is intended to explore and justify the various causes of stress factors in the organization, the effects of stress on its employees performance, how its workers identify these stress factors and react to them since it has been noted that stress have adverse consequences on the socio-economic and cultural development of most organizations the study explored descriptive survey, data were gathered through the use of questionnaires, personal interviews and library search

A comprehensive and stratified random sampling technique was used to ensure that every member of the work force has equal chance of being represented in the sample size, for proper and accurate research work; 65 respondents were interviewed out of the population of 78 potential respondents. The sample was taken as the random representative of the totality of the population and the questionnaire administered to the actual respondents.

The data collection instrument employed in this study was an 18- item questionnaire. The questionnaire contained closed ended questions and has 6 sections, the questionnaires are designed in such a way that all the elements of the variables of interest to be measured are included and designed to generate sufficient information needed to address the objectives of the study.

The two types of variables used in this study are the independent and dependent variables. The independent variable for this study is Job stress while the dependent variable is employee performance. Productivity ratio was used as the construct for measuring performance.

3. Data Analysis Technique

Descriptive statistics was utilized to analyze the data obtained with a view to achieving the objective of the study. The data in the questionnaire were coded and used to carry out various statistical analyses. In order for the research to be useful, a descriptive approach of data analysis was applied. The researchers has decided to use descriptive statistical technique to test the reliability of variables of interest.

Findings, results and discussion.

Table 1: Distribution of Respondents by Educational status

EDUCATIONAL STATUS	FREQUENCY	PERCENTAGE
Diploma	12	18.5
H.N.D	20	30.8
M.B.B.S/B.SC	33	50.8
Total	65	100

Source:Field Survey,2014

From table 1, 12(18.5%) of the respondents had Health Technology Education, 20(30.8%) have Higher National Diploma, while the bulk of the respondents had University Education. The findings reveal that most of the workers have University Degree.

Table 2: Distribution of Respondents as to what constitutes stress at work

Variables	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)
Workload is a cause of stress	43(66.2)	14(21.5)	0(0)	5(7.7)	3(4.6)
Career development is a cause of stress	48(73.8)	11(16.9)	1(1.5)	5(7.7)	0(0)
Work/Family conflict is a cause of stress	51(78.5)	7(10.8)	2(3.1)	4(6.2)	1(1.5)
Total	142	32	3	14	4

Source: Field Survey, 2014

In table 2, a high majority (95.0%) of the respondents were of the opinion that career development is the major cause of stress, while only 7.7 per cent had a negative view of the concept. Furthermore, it was revealed in the study as perceived by 89.0% of the respondents that family conflict should be considered as a strong stressor at work, while 88.0% of the respondents were of the perception that work load contributed to work-stress. It is a clear indication that various factors cause work-stress

Table 3. The effects of job stress on employees' performance.

Variables	No Extent (%)	Very Low Extent (%)	Low Extent (%)	High Extent (%)	Very High Extent (%)
1)Effect of stress on performance	2 (3.1)	3 (4.6)	5 (7.7)	25 (38.5)	30 (46.2)
Total	2	3	5	25	30
Variable	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
2)Inability to perform a given task efficiently as a result of stress	23 (35.4)	21 (32.3)	1 (1.6)	8 (12.3)	12 (18.5)
Total	23	21	1	8	12

Source: Field Survey,2014

In Table 3 above,, 2(3.1%) of the respondents reported no extent, 3(4.6%) reported very low extent, 5(7.7%) low extent, 25(38.5%) high extent and 30(46.2%) reported very high extent.

From the same table, 23(35.4%) reported strongly agreed, 21(32.3%) agreed, 1(1.6%) was undecided, 8(12.3%) disagreed and 12(18.5%) was reported strongly agreed.

The result shows that there is potential for poor performance when work conditions are perceived as presenting a demand that threatens to exceed the person's capabilities.

Further more on the same table 39(60%) respondents attributed to repetitive work(i.e. doing the same thing every time), 44(67.7%) affirmed it to keen supervision of their job, 46(70.8%) through lack of communication between superiors and subordinates(co-workers), 37(56.9%) agreed that stress comes as a result of under loaded i.e. little or no work to do and 5(7%) affirmed it to uncomfortable work conditions and exposure to danger on the job(physical Environment).

The results show that every human being experiences various degrees of stress and with various reasons. With all the pressures in organizational setting, it is not surprising that stress has become a real problem.

Table 4: Experience of illness as Effect of stress on the employees

Have you experienced some illness as a result of your work stress	Frequency	Percentage
Yes	37	56.9
No	28	43.1
Total	65	100

Source: Field Survey, 2014

From the table4 above, 37(56.9%) of the respondents have experienced one form of illness or the other. These people agree that the illness experienced emanated from work process.

Some of the illnesses cited are headaches, body pain, malaria, feverish conditions, dizziness, tiredness etc. 28(43.1%) of the respondents agreed that they have not experienced illness, 70.7% of the respondents mentioned headaches as their regular illness, 15.2% named body pains while 14.15% named feverish conditions as their regular illness.

Table 5 Coping Strategies of Employees on job stress.

Variables	Frequency	Percentage
Flexible Work Schedule	22	33.8
Break Period	10	15.4
Off days	11	16.9
Leave Days	15	23.1
Organizational Communication	5	7.7
No Response	2	3.1
Total	65	100

Source: Field Survey, 2013

Table 5 shows that 2(33.8%) of the employees agreed to Flexible work Schedule,10(15.4%) affirmed Break period, 11(16.9%) agreed to off days, 15(23.1%) emphasized Leave while 5(7.7%) did not respond at all. It can be inferred that flexible work schedule and leave have been adopted as a relieving mechanism for workers.

When respondents were further asked how they cope with stress, majority of the respondents (52%) agreed they take some days off to rest, 8% mentioned absence from work, 12% of the respondents affirmed engaging in exercise.

Conclusion and recommendations

4.1 Conclusion

From the research findings, we concluded that Work overload, Career development and Work/family conflict are considered to likely cause a disruptive effect on performance of workers. They are also seen as more problematic compared to the other causes of stress.

The study reveals that workers through tiredness, worry, unhappiness, weakness, headache, anger to mention a few identified these stress factors, they also react to these stress factors by absenting themselves from work, taking off days, watching movies, sleeping, drinking and smoking, further more the presence of work stress evoked illness on workers.

A substantial amount of respondents 56.9percent confessed that they have experienced illness in the course of their duty. Though Clinics were made available to attend to these problems caused by stress, it was evident that most workers will prefer a stress free working environment to a palliative treatment they will receive in these clinics.

4.2 Recommendations

From the research analysis, findings and conclusions, the made; following recommendations were:

- a. The workload of workers should be reduced to a more reasonable level. The hospital should employ more workers to help lift too much workload of the workers.
Workers of the hospital who are developing their career should be encouraged to do so, this could be done by granting them leave or reducing their workload so they could have more time for career development
- b. Workers should try as much as possible to strike a balance between their office work and family responsibilities; none should be taken with levity
- c. The workers position and status should be put into consideration and adequate incentives and benefits should be made available.
- d. Organizational policies should be instituted that will make communication amongst the rank files liberalized and made easier.
- e. There should be wide consultation on issues before taking any decision. Workers should be given freedom to express their minds on issues affecting them. This will facilitate a sense of belonging among the workers.
- f. Efforts made by government to revamp the economy should be intensified. If this is achieved, workers will have job opportunities and the condition of service will be enhanced.
- g. Workers should ensure self protection against stress. They should ensure means to fight back these stress factors. They should be able to detect the signal of stress factors and possible causes within the environment.
- h. Workers should endeavour to attend mental health seminars and adopt stress reducing measures like relaxation, sleep, rest (leave seeking), balanced diet, exercises that help the heart and lungs, dangers of alcohol abuse and ability to let go.
- i. Workers should set priorities. Most effective workers achieve their objectives at early hours of the day, those who fail to plan and set priorities often face stress situations at the end of the day. Long range plans and goals are also important.

- j. Traits like being aggressive, highly competitive, hard driving, ambitious and being optimistic make the workers the primary subject of stress. What is needed exactly when such is discovered is for the workers to undertake counselling from organizational psychologist and supervisors.

References

- Adams, J.D. (1980). Improving Stress Management: An Action-Research-Based OD Intervention, Understanding and Managing Stress: *A Book of Readings*. University Associates, San Diego, California, pp.179-198.
- Anderson E.S., Coffey S.B., &Byerly T.R. (2002). Formal Organizational Initiatives and Informal Workplace Practices: Links to Work-Family Conflict and Job-Related Outcomes. *Journal of Management* 28,787.
- Anderson, R (2003).Stress at work: the current perspective. *The journal of the Royal Society for the Promotion of Health*, 123;81
- Arnold, H.J and Feldman, D.C (2000).Handbook of psychology, *Industrial and Organizational psychology*, p 304.
- Becker, T. (1990). Job stress and performance controversy: An empirical
- Beehr, A.T., Jex M.S., Stacy A.B., & Murray A.M. (2000). Work stressors and Coworker Support as Predictors of Individual Strain and Job performance. *Journal of Organizational Behaviors*, Vol 21, No 4,pp391-405.
- Chen, P. &Spector , P (1992) *Journal of Occupational and Organizational Psychology* 65(4).
- Demands, Work Flexibility, Work/family Conflict, and Their Consequences at Work: A National Probability Sample in Taiwan .*International Journal of Stress Management* ,, Vol. 15, No. 1, 1-21.
- Demographic Transition Theory Population Studies Journal 2011, Vol 65 (3). Examination in two countries.*International journal of stress management*, vol .14, No. 2,175-187.examination. *International journal of stress management*, vol .17, No. 2,195-227.
- Folkman,S. &Moskowitz, J.T(2004).Coping:pitfalls and promise. *Annual Review of psychology*, vol 55, 745-774.
- Jamal M. (1984). Job Stress and job Performance controversy: an empirical assessment in two countries. *Organizational Behaviour and Human Performance*, 33:1–21.
- Jamal, M (2007). Job stress and job performance controversy revisited: An empirical study.
- Jennifer McGowan (2006). Positive and negative affective outcomes of occupational stress. *International journal of stress management*, vol .17,135-145
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). Organizational stress: *Studies in role conflict and ambiguity*. New York: Wiley.
- Kasl, S.V. (1973). Mental Health and the Work Environment.*Journal of Occupational Medicine*, Vol 15, pp. 509-518.
- Lawless,O. (1992) The importance of work stress and family stress for psychological well being, *Journal of Occupational Health psychology* 1,211-223.
- Lawrence, P., &Lorsch, J. (1967).Organization and Environment: *Managing Differentiation and Integration*.

- Lazarus, N (1991) An Introduction to work and psychology: *A European perspective*. Madeline Weiss. (1983 Mar). Effects of Work Stress and Social Support on Information Management Oxford & IBH Publishing co. Pvt. Ltd., Stress and mental workload: *A conceptual synthesis*, pp 48-52.
- Margolis, B.L., Kroes, W.H., & Quinn, R.P. (1974). Job Stress: An Unlisted Occupational Hazard. *Journal of Occupational Medicine*, Vol, pp. 659-661.
- Mathieu & Zajac (1990) Multiple Commitments in the Workplace: an *Integrative approach*, p 153.
- McCubbin, H. I., & Figley, C. R. (Eds.). (1983). *Coping with normative transitions (Vol. 1)*. New York: Brunner/Mazel.
- McGowan, J., Gardner, D., & Fletcher, R (2006 July). Positive and Negative Affective McGrath (1976). Organization and Environment: Managing Differentiation and Integration. Harvard University Press, Cambridge, Massachusetts.
- Outcomes of Occupational Stress. Massey University, Auckland. *New Zealand Journal of Psychology Vol.35, No. 2*.
- Pestonjee. D. M., Nina Muncherji (1999). Studies in stress and its management, Oxford & IBH Publishing co. Pvt. Ltd., *Stress and coping: some lessons and suggestions*, pp 310-313.
- Pestonjee.D.M., Pareek.U., Agrawal.R., Tripti Desai (1999). Studies in stress and its Pincherle, G. (1972). Assessment of the Relation-ship Between Stress and Work Performance. *Proceeding of the Royal Society of Medicine*, Vol, pp. 321-324.
- Rayner, C. and Hoel, H. (1997). *Journal of Community and Applied Social Psychology*, Vol 7, Issue 3, pages 181-191.
- Rose, M (2003). Good deal or Bad deal? Job Satisfaction in Occupations. *Work Employment Society*, 17; 503.
- Sheena Johnson, Cooper ,C., Cartwright, S., Ian Donald Paul Taylor., Millet ,C(2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology* Vol. 20 No. 2, pp. 178-187.
- Stamper, L.C., & Johlke C.M (2003). The impact of Perceived Organizational Support on the Relationship between Boundary Spanner Role Stress and Work outcomes. *Journal of Management*, 29; 569. *Systems Managers. MIS Quarterly*, Vol. 7, No. 1, pp. 29-43.
- The Journal: Local Population Studies, 2010.
- Williams, J.C and Huber, G.P (1986). Human behaviour in Organizations Third Edition, South Western Publishing co, Cincinnati, Ohio.p254.

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SCIENTIFIC REVIEW ARTICLE
Received: October 31, 2014
Accepted: November 30, 2014

RATIONAL ECONOMIC BEHAVIOR – INTERDISCIPLINARY APPROACH²

Abstract

Behavioral economics and economic sociology arise and develop on the point where economics and psychology, as well as economics and sociology, overlap. Behavioral economics studies economic factors and psychological appearance that have a direct impact on economic behavior. On the other hand, economic sociology studies the behavioral norms of the social groups and the organizations. The correlation between the research subjects of these scientific disciplines imposes a need for specifying an interdisciplinary model of human behavior in society. The aim of this paper is to evaluate opportunities for the development of an interdisciplinary model of human behavior.

Key words: Economic sociology, behavioral economics, rational behavioral, interdisciplinary research

JEL Classification: A10, A14

РАЦИОНАЛНО ЕКОНОМСКО ПОНАШАЊЕ – ИНТЕРДИСЦИПЛИНАРНИ ПРИСТУП

Апстракт

Тамо где се додирују економија и психологија, економија и социологија настале су и активно се развијају нове научне дисциплине: економска психологија и економска социологија. Економска психологија испитује утицај економских фактора и психолошких појава на економско понашање. Економску социологију, пак, интересују норме понашања друштвених група и организација. Повезаност предмета истраживања ових научних дисциплина намеће потребу спецификовања заједничког модела понашања човека у друштву. Циљ рада је да оцени могућности израде интердисциплинарног модела људског понашања.

Кључне речи: економска социологија, економска психологија, рационално економско понашање, интердисциплинарни истраживање.

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² The paper is the result of the research done as part of the project “Development of Competitiveness of the Public and Private Sector by Networking Competences in the Process of the European Integrations of Serbia”, reference no. 179066, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

Introduction

One of the clearly defined tendencies in the development of contemporary science is the overlapping of various fields of scientific knowledge. New scientific disciplines have appeared and are actively developing on the overlapping points between economics and psychology, as well as economics and sociology: economic psychology (behavioral economics) and economic sociology. The representatives of these disciplines attempt to explain and foresee human behavior (Kahneman, 2003). The consideration of human behavior requires from the representatives of these scientific fields to devise a common interdisciplinary model of human behavior in society. This problem is the subject of numerous papers by local and foreign scientists (Schumpeter, Becker, Simon, Taylor, Bruner, Weise, Arow, Hodgeson, Schrader, Williamson, Lindenberg etc.), whose ingenious analyses were able to explain certain principles of human behavior.

The aim of the paper is to assess the possibilities for developing a model of a man common to all social sciences. The paper represents an analysis of the essence of economic behavior. The purpose of the paper is to emphasize what is and what isn't common in the applied approaches. The article consists of three parts. The fundamental elements of the economic and social approach in studying rational economic behavior are presented in the first part. The second part contains a description of the fundamental characteristics of the psychological model of human behavior, applied in economics, psychology and related disciplines. The end of the paper is devoted to the clarification of the economic rationality of society and individuals.

Economic Approach

According to contemporary beliefs, each social science has its own approach to the study of objective reality. The difference between economic science and other social sciences is in the approach to the phenomena that study it. In the paper entitled “Economic Approach to Human Behavior”, Gary Becker stresses that: “economic theory, as a scientific discipline, differs from the other fields of social knowledge not only in its subject of study, but in its approach as well. On the whole, the essence of the economic approach is comprised from the merged assumptions of maximizing behavior, market balance, preference stability etc. I have come to the conclusion that the economic approach is comprehensive and applicable to all forms of human behavior.” (Becker, 2003, p. 28)

The author of the contemporary definition of the subject of economics, Lionel Robbins, prominently stressed that: “economics is a science which studies human behavior based on the relationships between the aims and the limited means suitable for alternative uses” (Robbins, 1993, p. 19). For this reason, an economist does not study the nature of certain randomly selected forms of human behavior, but views and analyses them from the aspect of the comprehensiveness of (all) social links and involvements in social structures (Valeryevich, 1997, p. 113).

There are three fundamental premises in the foundation of the economic approach: (1) commercial entities behave rationally; (2) a commercial entity, along with other individuals, maintains the balance and creates a spontaneous social order and (3) the preferences of commercial entities do not change over time (Hafner, Krstic, 2011, p. 39).

In order to explain individual behavior, economic science used the model of the economic man (*homo economicus*). The development of science enabled the formation of various approaches which present this model. The first person to define the subject of

political economics with the aid of the model of the economic man was John Stuart Mill (Kitanovic, Petrovic, 2010, p. 43). Without paying too much attention to all the phases of the model's transformation, we will attempt to define its key characteristics in the contemporary schools of economics.

The assumption of neo-classical economic theory is that the behavior of all the economic participants is perfectly rational. The perfect form of rationality is based on the principle of maximization which states the following: the consumer always strives for maximizing usefulness (to achieve the maximum satisfaction of the needs), while the manufacturer wishes to realize maximum profit. Bearing this in mind, it needs to be taken into account that the general pattern of the *homo economicus* includes and combines in itself the following propositions.

1. *Homo economicus* finds himself in a situation in which the quantity of the available resources is limited to him. At the same time, he cannot satisfy his own needs and thus must make a choice.
2. The factors which condition this choice are divided into two groups i.e.: preferences and limitations. Preferences have the character of the subjective needs of an individual, while limitations represent human weaknesses, owing to which the achieved usefulness level is well below the maximum level.
3. In making his selection, the economic man is driven by his own tendencies, not the interests of his business partner, and not by the adopted social norms, traditions etc.
4. The pattern of the *homo economicus* shows the presence of a wholehearted rejection of general interest. Only individual interests are obvious. The fundamental individual interest is the realization of the maximum possibilities of freedom. In accordance with this, the interest of the individual is primarily the maximum of the economic satisfaction which can be achieved while simultaneously respecting the idea of freedom “as the dominant principle in human relationships and the organizational principle which has enormous potential for the future commercial development and progress of the society as a whole” (Madzar, 2013, p. 59).

The basis of the neo-institutional model of the economic man involves the principle of limited rationality. The essence of the rationality concept may be best expressed by the words of Herbert Simon: “people are consciously rational only to a certain extent” (Simon, 1995, p. 17). By pursuing their interests, they frequently achieve the results contrary to the conceived or unsuitably set goals. When making decisions, information is hard to acquire, superfluous or highly complex, so there is no guarantee that the choice will not result in losses in complex situations. The aim of the neo-institutional model is that the analysis is directed towards norms, rules and stereotypes which govern human behavior.

According to this concept, the principles of economic behavior are: optimism, habits, tradition, social and moral norms. In this particular instance, there is also a presence and tendency to rationality and its limitations. The essence of limited rationality was most accurately expressed by Knight: “Rational behavior is non-rational when the costs of rational behavior are too high” (Knight, 1921, p. 67). In contemporary scientific literature, *REMM* (*Resourceful, Evaluating, Maximizing Man*) is the designation of the economic man who creates, evaluates and maximizes, while the abbreviation *REEMM* (*Resourceful, Restricted, Expecting, Evaluating, Maximizing, Man*) designates a man who creates, examines, expects, evaluates and maximizes (Bruner, 1993).

Sociological Approach

The fundamental trait of the sociological approach to the model of man (*homo sociologicus*) is the reduction of the influences of personal interests and assigning a key role in society, social institutions, rules and norms of behavior. According to the opinion of Radajeva, sociology is not involved in the nature of human behavior. Its subject of interest is the action of people as members of society (Radajeva, 1997). Unlike the economic form of action, the social action of man contains an internal subjective rational unity. In other words, we face the social action of man when it becomes a product of internal motivation and subject's reaction to the stimuli in the surroundings. Rational behavior of (sociological) man is understood as his response to certain social norms.

According to Lindenberg's *SRSM* model (*Socialized, Role-Playing, Sanctioned, Man*), man is a living being that has roles, whose behavior is subject to sanctions (Lindenberg, 1985). Individuals are prepared for specific roles with socially determined characteristics and commitments. If an individual with an insufficient level of socialization can avoid their commitments, then their behavior must be controlled. This is why the process of socialization is supplemented and strengthened with sanctions. Bearing this in mind, Lindenberg proposed the *OSAM* model (*Opinionated, Sensitive, Acting, Man*) for a man that is adjustable, active and has his own opinion (Lindenberg, 1985). The mentioned model is an essential integral element of empirical sociology which deals with social processes, such as: learning and guidance. These are socially determined phenomena.

According to Lindenberg, the *SRSM* model is uncreative. In the *SRSM* model, human behavior is limited and subject to sanctions. In addition, the rarity factor only indirectly influences human behavior. The act of choice is excluded and nothing can be maximized. Human abilities, not only in terms of intellectuality and knowledge, but also on the moral plane, are seriously limited. For this reason, human behavior dominantly depends on the social structures and norms of behavior within a specific social system. Explaining the relationship and the key difference between the *REMM* and *SRSM* model, Lindenberg states that the *SRSM* model is appropriate for the description of a traditional social system which it marks: stability, dependence on religious and mythological presentations, value rationalization, collective character of society and the absence of personal prominence etc. (Fedotova, 1995). In the *SRSM* model, the social system does not exhibit perspicacity and the ability to make a choice; its potential remains unused and is satisfied by inherited institutions.

Prior to establishing sociology as an independent science, many issues that represent the main subject of research in sociology had been studied as classical political economics. The connectedness of ideas from various scientific disciplines causes the need for interdisciplinary research. Schumpeter emphasizes that this connection between the ideas of economic science and sociology creates economic sociology – a field of analysis in which neither economists nor sociologists can make a single step without stepping on each other's toes (Schumpeter, 1989). The author views economic sociology as an especially important element of economic science. The Dutch sociologist, Korver, believes that the transformation of classical political economics into neo-classical economic theory and the suppression of classical sociology are the key reasons of its adventitious theoretical standpoint.

Solutions to this can be found in the unification of economics and sociology, which represents the development of a single model of man based on the principle of methodological individualism. Finding a compromise between the economic and sociological model of man is the subject of many domestic and foreign papers. In the

opinion of a German sociologist and economist, Weise, it is not a matter of selection among certain models, some of which have been verified as good, while others are indisputably bad, but of the choice in options which simultaneously have their advantages and disadvantages, and which require serious examination (Weise, 1993).

Psychological Approach

Economic psychology examines the impact of economic factors and psychological phenomena to economic behavior. French scientist Tard first started to deal with the Problems of economic psychology. In addition, a great contribution to its development can be ascribed to American scientist J. Caton. However, many scientists believe that the first psychological man appeared in the works of Freud.

According to Freud, the main characteristics of man are impulsiveness and emotionality. His behavior is determined by internal unconscious and uncontrolled forces, which make him contradictory and unpredictable. It is a matter of instinct (id) and moral and social norms (super ego). These forces are in constant collision and form a complex mutual relationship of man's personality. In accordance with this, a personality is formed and is actively developed as a result of the conflict between man's instinctive (impulsive) nature and the demands of society (Aleksandrovna, 2014).

The other researchers view the concept of “psychological man” as the motivational model proposed by Maslow. According to Maslow, every individual has goals (motives and needs) which they wish to realize. These aims are individual, innate, and there is certain regularity or hierarchy among them. There are five levels to this hierarchy, i.e.

1. Fundamental physiological needs, such as: the need for food, water, oxygen, sleep.
2. Need for security.
3. Need for belonging and love.
4. Need for self-respect, which may be classified into two groups: the need to respect oneself and the need to be respected by other people.
5. Need for self-actualization, which represents the utilization of all capacities, potentials and talents that an individual has (Milinkovic, 2014).

Needs from higher levels in the hierarchy can appear in the consciousness of an individual only when the lower-level needs have been fulfilled.

There is no correlation between the model of psychological man by Freud and Maslow on the one hand, and the model of the economic man on the other. Within the scope of this Article, we are not as interested in the comparison of these models as in the estimate of the influence of psychological research on the formation of the model of man in economics, since psychology lies at the basis of any social science and every fundamental research needs to be considered under psychological terms (Fenko, 2002).

The proof of recognition of the validity of psychological research for economic science was the Nobel Prize for Economics (2002), awarded to psychologist Daniel Kahneman. In the official conclusion of the Nobel Committee, it is stated that Kahneman was given the award for the integration of psychological research in economic sciences and evaluating the decision-making process in conditions of risk (Aleksandrovna, 2014). With Tversky as the co-author, in 1979, Kahneman published the article “Theory of chance: analysis of making decisions under the conditions of risk”. In this paper, authors cite a great number of experiments in which the respondents were asked to select one of the offered alternatives. The significance of this research is in the discovery, forecasting

and classification of systemic mistakes in the decision-making process (Kahneman, 2003).

Kahneman's recognition served some scientists as the cause for criticizing the model of economic man. It seems that the oft cited statement that Daniel Kahneman had devoted his entire life to disproving the main thesis of economic theory on the rationality of human behavior is not entirely fair. By giving him the award, economists practically apologized for deceiving people for 300 years (Fenko, 2004). "If people are not always capable of acting rationally, then much of what economists have included in their science must be reevaluated." (Voronov, 2003, p. 27)

In our opinion, the discovery made by psychologist Daniel Kahneman does not at all dispute the model of economic man. On the contrary, it significantly enriches it, and extends the field of its application. In any event, this is the belief of the Nobel Prize Winner as well. In his first address, after learning that he had been awarded the prize, Kahneman stated that the prize represented the recognition of the success in the development of economic psychology (behavioral economics), provided universal behavioral models have been created, which explain the position of economic science and many economic phenomena.

Rationality of Society and Rationality of an Individual

The concept "rationality" in economics has a different meaning from the one found in social sciences, where rationality is not different from the usual, everyday concept of rationality. In everyday language, rationality means the "state of clear consciousness", while in economics, the term „rationality“ expresses a situation in which a person thinks before they act on something. A rational person compares costs with the gains before undertaking any action. By electing one of the offered alternatives, economic man is governed by personal subjective concepts of usefulness which can be material, as well as psychological, social and spiritual (Avtonomov, 1998).

The rationality of economic man is closely connected with the principle of methodological individualism. In accordance with the principle of methodological individualism, autonomous and free individuals make decisions which maximize their interests, while universal greed produces general social well-being. As Adam Smith points out: "We do not get our lunch owing to the kindness of the butcher, brewer and baker, but because they are taking care of their own interests" (Smith, 1935, p. 17). However, many authors misinterpret Smith's viewpoints on rational economic behavior. If we say that people act or need to act in accordance with their interests, this does not mean that people are solely governed by or should be governed by their tendencies (Hayek, 2001, p. 256).

Furthermore, the term "rationality" in economic theory should not be interpreted in such a way to deem that a student who spent his entire scholarship on purchasing a bouquet (flowers for his girlfriend) is "irrational", while his friend is rational by saving most of his scholarship in his purchase of a phone. From the standpoint of economic theory, the behavior of both participants is rational, provided that they have elected the preferred (optimum) alternatives. Another example comes from Heine's book. Having been awarded the Nobel Prize for Peace, Mother Teresa decided that the 190,000 dollars of her prize were to be used to build a hospital for the leprous. Had she acted in her "own interest"? Can her behavior be considered "greedy"? (Heine, 1997). In other words, in most cases, economic rationality signifies the selection of the optimum variant, without any type of requirements for the sense of the very goal.

The concept of economic rationality does not provide any normative judgments on preferences. Whether the preferences of the participants are “good” or “evil”, “instrumental” or “expressive”, is of no consequence if the individual acts in accordance with their own interests. A person who attempts to conquer the whole continent and acts accordingly, such as Adolph Hitler, is as rational as the person who strives for the promotion of democracy and acts in accordance with this, such as Woodrow Wilson. Similarly, a person who is searching for work and also wishes to minimize their revenue acts as rationally as another person who acts in accordance with their own wish to maximize their revenue. Saying that someone is instrumentally rational is not a compliment; this is simply a way to say that they are acting in accordance with their own preferences, whatever they may be. Various psychological, informational or structural factors result in consumers, especially organizations, being capable of acting rationally. If the consumer elects the best cart that they can afford, their behavior is rational.

Rationality is not solely a characteristic of an individual. It also appears as the tool for survival, life and development of potentials of relevant societies. In the traditional society, it is evident that the rationality of the whole determines the rationality of the individual and the rationality of the conditions (Fedotova, 1995, p. 11). However, in contemporary society, there is no doubt that the rationality of society is determined by the rationality of the individuals that comprise it. Unlike traditional society, where an individual follows their own values – tradition, faith, peace, morality, contemporary society forms the priority of individual aims.

In Place of a Conclusion

Economists utilize models in order to study how the world functions. A model is built based on certain assumptions and represents the instrument of analysis. In accordance with this, it is necessary to select and construct a model dependent on the aim of the research in order to provide the best scientific result. This is illustrated with the following example. Let’s assume that the task is to determine the surface of a room. During the measurement, a ruler, steps, and other instruments may be used. When selecting an instrument, it is important to precisely formulate an aim. If accuracy is a priority, the ruler needs to be selected. If the measurement is to be performed with maximum expediency, and minimum costs, then it may be done by counting steps (Aleksandrovna, 2014). Taking all this into consideration, the following characteristics of the model of rational choice can be isolated:

1. The rational choice models are flexible enough to explain many phenomena which cannot be explained by economic theory, in the narrow sense. These models have provided important insights into related fields, such as: sociology, psychology, political science etc. (Gilboa, 2013).
2. The advocates of the rational choice model do not claim that the hypotheses of the model can explain practically everything that happens inside the field that they cover, but that good models can assist us in understanding and formulating scientific hypotheses. Considering the fact that the technical mechanism of contemporary economic science is non-historical and asocial, rational choice theory is not necessarily limited to explicit markets, where economic and every other type of behavior is regulated through price mechanisms. This has paved the way to the expansion of rationality into the non-economic domain, and redefining the economic domain, including market relations (Golubovic, Milosevic, Stefanovic, 2011, p. 140).

3. There is a belief in the possibility of developing universal models of behavior which explain the position of economic science and many economic phenomena. At least three arguments are cited as proof of this claim.

The first is that contemporary achievements of behavioral economics do not dismiss economic behavior rationality hypotheses, but only expand the field of their application. The second is found in the statement by Gary Becker: “The economic approach does not require the individual participants to compulsorily understand their striving for maximization, or to be able to verbalize the reasons for the existence of stereotypes in their behavior” (Becker, 2003, p. 39).

The third argument is reduced to the statements of the representatives of sociology. Economic theory and its support from the microanalysis of the behavior of an individual and group have not managed to reach any significant observations concerning the functionality of commerce and trade as a whole (Stojanovic, 2007, p. 131). Contrary to this, sociology is wrong not to pay attention to the leading role of economics when it comes to explaining the behavior of individuals and groups. Therefore, economics and sociology must go down the same road. The theoretical cooperation between these two disciplines forms the theory of individual impact, while the analytical cooperation brings the theory of social impact (Korver, 2001, p. 113-4).

The model of economic man incites the cooperation between experts from various fields and thus contributes to the development of a unique approach to economic theory and related disciplines.

References

- Автономов В. С. (1998), *Человек в зеркале экономической теории*, СПб.: Экономическая школа,.
- Брунер, К. (1993). Представление о человеке и концепция социума: два подхода к пониманию общества. *THESIS*. Т.1. Вып.3.
- Китановић Д., Петровић, Д. (2010). *Огледи о методологији савремене економске науке*. Економски факултет. Ниш.
- Фенько, А.Б. (2002). Человек безумный. *Коммерсантъ-ВЛАСТЬ*, 41(494).
- Федотова, В.Г. (1995). Рациональность как предположение и содержание современного общества. *Философия науки*, 2(4), 5 -19.
- Беккер, Г. (2003). *Человеческое поведение: экономический подход*. М.: Изд-во: ГУ ВШЭ.
- Голубовић, Н., Милошевић, Г., Стефановић, Т. (2011). Од „старог“ до „новог“ економско -теоријског империјализма. *Економске теме*, 2, 137-151.
- Хафнер, П. (1996). Проблем вредности и вредновање модернизацијских процеса у економији, у студији „Управљање трансформацијом предузећа“, Институт за економска истраживања Ниш.
- Хафнер, П., Крстић М. (2011). Примена теорије рационалног избора у анализи криминалног понашања. *Економика*, 1, 37-47.
- Хайек, Ф.А. (2001), *Индивидуализм и економски порјаток*. М.: Изограф,.
- Хейне, П. (1997), *Економски образ мишленя*. М.: Изд-во Каталаксия.
- Gilboa, I. (2013). *Racionalni izbor*. Mate. Zagreb.

- Knight, F. (1921). *Risk, Uncertainty and Profit*. Mass.: Houghton Mifflin. Boston.
- Канеман Д., Тверски А. (2003). Рациональный выбор, ценности и фреймы. *Психологический журнал*, 4.
- Корвер, Т. (2001). Голландский подход: всего понемногу, или экономическая социология в Нидерландах. *Экономическая социология*, 5.
- Роббинс, Л. (1993). Предмет экономической науки. *THESIS*, 1.
- Lindenberg, S., (1985). An Assessment of the New Political Economy: Its Potential for the Social Sciences and for Sociology in Particular. *Sociological Theory*.
- Маџар, Љ., (2013) Систематско и завереничко у економском назадовању – Наставак расправе о тзв. неолиберализму. *Гласник за друштвене науке*, 5, 19-116.
- Сведберг, Р. (2006). Начела економске социологије. Мате. Загреб.
- Валерьевич, Р. В. (1997). Экономическая социология (к определению предмета). *Общественные науки и современность*. 3.
- Саймон, Г. (1995). Теория принятия решений в экономической теории и науке о поведении. Теория фирмы - СПб: Экономическая школа.
- Стојановић, Б. (2007). Економија и социологија – између сарадње и нетрепелјивости. *Економски анали*, 52 (174-175), 131-151.
- Шумпетер, Ђ. (1989). История экономического анализа. *Истоки*.
- Вайзе, П. (1993). Номо есопомтус и Номо sociologicus: монстры социальных наук. *THESIS*.
- Воронов, Ю.П. (2003). Нобелевская премия за рынок с человеческим лицом. *ЭКО*, 1.
- Милинковић, И. Abraham Harold Maslow, <http://www.istrazime.com/velikani-psihologije/abraham-harold-maslow/>, (1. октобар 2014).
- Александровна, М. С., Рациональность и экономическое поведение: междисциплинарный подход, <https://sites.google.com/site/konfep/Home/1-sekcija/miheeva>, (10. јун 2014).

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SCIENTIFIC REVIEW ARTICLE
Received: October 02, 2014
Accepted: November 10, 2014

VALIDITY OF ACCOUNTING INFORMATION FOR MANAGEMENT IN THE PROCESS OF DECISION MAKING

Abstract

All the credits for the transformation of social and economic structure of the developed countries on the global level go to the corporate management, but we should bear in mind that corporate management as such has transformed itself, becoming modern and very powerful.³ Although there are various opinions on the factors that indicate the sources of power, the following processes have had a dominant influence: 1. expansion of the knowledge base 2. development of applied technologies 3. introduction of new concepts in the management of corporations. The sequence of these concepts is random but the process of introduction of new concepts in the corporation seems to have had the greatest influence. Serbia, as a developing country, did not follow the trend of the development in this area which, after the transformation from state into private ownership, had numerous negative economic and social indications such as: growth rate, unemployment, inflation, fiscal deficit, gross domestic income (GDP), trade balance, external debt, export, investments, etc.

This paper aims to point out the importance of the accounting information for the management in strengthening the competences of corporate management in the domestic economy.

Key words: *global competition, dynamic of change in the economic structure, managing reactions, creating a new value for the owners, accounting for management, corporate management transformation.*

JEL Classification: M4, M41

ВАЛИДНОСТ РАЧУНОВОДСТВЕНИХ ИНФОРМАЦИЈА ЗА МЕНАџМЕНТ У ПРОЦЕСУ ДОНОШЕЊА ПОСЛОВНИХ ОДЛУКА

Апстракт

Заслуге за трансформацију друштвене и економске структуре развијених земаља света на глобалном нивоу припадају пре свега корпоративном менаџменту, при чему треба имати у виду да се и сам корпоративни менаџмент

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³ Drucker, P.(2003). *My view of Management*, Adižes, Novi Sad, p.11

трансформисао, постао модеран и изузетно моћан.⁴ Иако постоје различита мишљења о факторима који указују одакле потичу извори моћи, доминантан утицај испољили су следећи процеси: (1) повећање фонда знања, (2) развој примењених технологија, и (3) увођење нових концепата у управљању корпорацијама. Не умањујући значај нити рангирајући редослед важности наведених процеса, чини се да је највећи утицај, имао процес увођења нових концепата у управљању корпорацијама. Србија као земља у транзицији није пратила тренд развоја у овој области што је, после извршене трансформације друштвене у приватну имовину, имало бројне негативне економске и друштвене импликације исказане кроз битне индикаторе као што су: стопе раста, незапсленост, инфлација, фискални дефицит, бруто друштвени производ (БДП), спољнотрговински биланс, спољни дуг, извоз, инвестиције и други.

Циљ рада је да укаже на значај информационе подршке рачуноводства за менаџмент у јачању компетентности корпоративног менаџмента у домаћој привреди.

Кључне речи: глобална конкуренција, динамичност промена у структури економије, управљачке реакције, стварање нове вредности за власнике, рачуноводство за менаџмент, трансформација корпоративног менаџмента.

Introduction

The opening of national borders by creating identical operating conditions for foreign companies in the domestic markets, reducing regulatory constraints, as well as the rapid development of financial attractiveness, transportation, consulting and health services, encouraging investment, the development of communication technologies, strengthening the service sector through creation of national public enterprises, such as telecommunications, energy and transport – all these are the processes that have largely marked the beginning of the third millennium. They have brought about many benefits to the users; all this proves that dynamic changes in the structure of the economy have been undertaken. This environment has directly produced three important consequences of the globalization of capital markets, goods and services, reflected in the following:

First of all, this is reflected in the strengthening of competition, characterized by continuously raising quality standards of products and services; further, in the improvement of the area of distribution, and in the challenges in terms of gaining competitive advantage. Second, we see improvements of the quality of corporate governance, as new shareholders coming from the developed capital markets possess the knowledge and abilities necessary to effectively control behavior and contribution of their managers. Third, companies that operate in the open market are continuously exposed to hostile takeovers, and this mostly applies to companies whose achievement is below their real potential, in which the increase of quality management (replacement of managers) can significantly improve performance and achieve high yields. In these conditions, the dynamic changes in the environment, specific characteristics of companies, not only between sectors but also within the same industry, and the diversity of management responses to the challenges of creating value for owners, all this has

⁴ Drucker, P. (2003). *Moj pogled na menadžment*, Adžes, Novi Sad, str.11.

almost excluded the possibility of finding equally good solutions for all companies and all business situations⁵, which directly points to the importance of the role of management accounting in the transformation of corporate management in the domestic economy.

Management accounting as information system in the process of business decision making

Regardless of the sector in which the company operates and regardless of its activity, every management must make economic decisions about the business activities at the beginning, during and at the end of the business period. At the beginning of the operations it is necessary to measure risks and their impact on the effects; during the ongoing activities management must take corrective decisions in order to undertake those activities that contribute to the planned performance and suspend those that do not. For example, management may decide to stop the manufacture and sale of unprofitable performance (products and / or services); further, management might in the future, due to the effects of competition and other circumstances, change the selling price, depending on the market environment in which it operates.

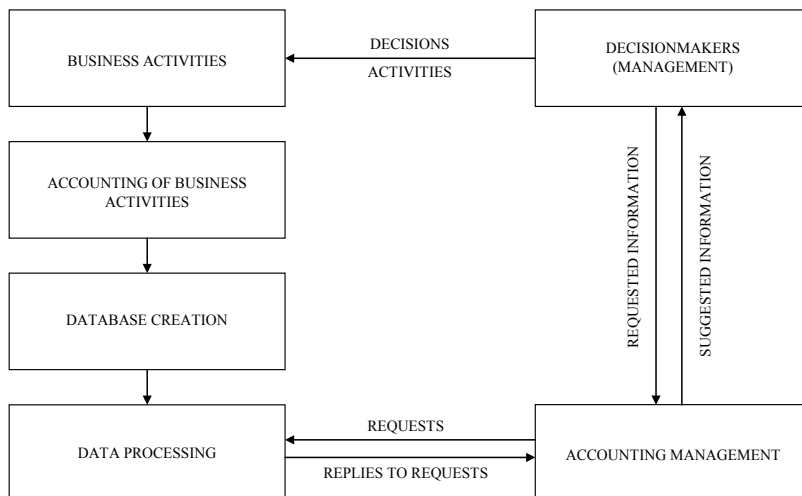
In modern conditions it is not possible to make business decisions about the future of the business entity or any business enterprise without the data and information that are the basis for making business management decisions. Within the business continuity, these data and information are to be provided by management accounting (cost and performance accounting).

Contemporary accounting for Management (*Management Accounting*) provides data and information that serve as a basis in making business decisions which are not based solely upon the accounting but upon a much wider inclusion of business activities, including planning and evaluation, as well as the internal and external (independent) control and audit. In modern terms management accounting must be focused on the future and not on the history, on the relations between companies and not just on one single entity. It must include both possible and existing activities, the must also be focused on the competition and not only on its own activities in production performance. Modern company must be proactive rather than reactive, it must be focused on strategic analysis using multiple models to improve the decision based on an estimate and not on the financial evaluation based on strict criteria in evaluating investments; it must also pay close attention to the profitability analysis based on effects, consumers and the market, not only on performance.

Preparation of information for decision making is carried out according to Diagram 1, where the following is clearly evident: first, accounting for business activities; second, the establishment of a database; third, the processing of data and information in order for management accounting to prepare necessary information as the basis for making business decisions.

⁵ Malinić, D., Miličević, V., & Stojanović, N.(2012). *Management Accounting*, Faculty of Economics in Belgrade, p. 30

Diagram 1. Management accounting as information system in the process of business decision making



In order for prepared information to be adequate for the set goal, it is decision for decision maker to define the following:

1. What are the goals to be achieved?
2. What resources are at disposal to achieve the goal?
3. What alternatives exist to undertake the best path towards achieving the set goal?
4. What actions should be taken?
5. What is the deadline set for the development of information?

Realization of management information needs within management accounting

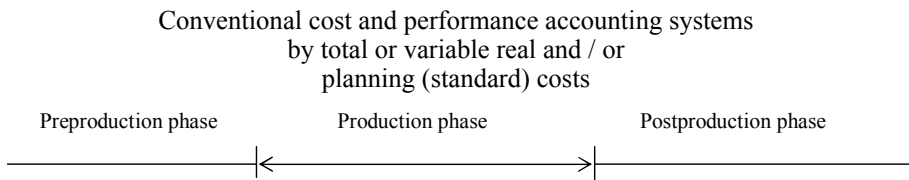
Intense changes in the business environment have dramatically sharpened the problem of managing performances of economic entities. The imperative of creating competitiveness based on comparative advantage which would allow the creation of added value for owners requires the calculation of the cost as per new approaches and new concepts of managing revenues, expenses and results, by upgrading conventional approaches to formulation of costs.

Globalization of the economy in the world, creation of new value for the owners depends not only on the internal efficiency but also on the ability of alignment of resources with demands. Respect for changes in the environment is not a matter of choice but a matter of strategic importance for the successful operation has resulted in the new information needs of management implemented within Management Accounting, which 'includes the processes and techniques that lead to financial and non-financial information relevant to business decision-making, in order to better manage business operations and achieve maximum financial success'⁶ because nothing but Financial Accounting could meet the emerging needs of the management for the above type of information.

⁶ Wilson R., & Chua Fong W.(1993). *Management Accounting*, Chapman & Hall, UK, p. 16

New claims for processing and tracking of changes in the market, new claims to maintain market position, competitive skills and continuing liquidity and all other operational management needs require from accounting management to set new tasks and to bring about increased volume of information requests. Defining a new role for management accounting in the present circumstances is of particular importance for any organization, because the imperative of assisting management requires that we upgrade traditional costing systems and the effects of new approaches and concepts.

The main characteristic of traditional costing systems and performance is reflected in the fact that they are targeted towards the cost of the production phase of the effects i.e. in the book-keeping sense they comprise total or variable actual and / or planned (standard) costs of production. That is why the objections are that cost monitoring costs starts too late and ends too early. Late follow-up is reflected in the objection that the costs are not monitored in the preproduction phase; the objection to premature monitoring is reflected in the complaint that costs are not monitored in the sales phase, which can be summarized as follows:



The globalization of capital markets, goods and services, as well as the consequent global competition today represents reality⁷, and a process that shall continue to expand.

Companies are characterized by a high degree of flexibility, strengthening of horizontal at the expense of the vertical structure, profit decentralization, the establishment of multifunctional teams about process, problems or projects. Sometimes, in certain situations, it may be necessary to reduce the size and orient towards the core competence of the given enterprise, while in other situations the creation of strategic alliances can be a source of gaining competitive advantage. Creating special relations with suppliers, customer relationship management, joint ventures, improving the efficiency of internal business processes, and management costs as those that occur in a company as well as those that occur outside the company, create immense accounting challenges in the calculation of cost and performance.

Improvement of the production process through technical and technological advancements, as well as a range of other activities that can contribute to increasing the internal efficiency of enterprises, have become a necessity in the constant struggle for existing and new markets. ‘The implementation of lean manufacturing is focused on raising product quality and production efficiency to the highest possible level, which, among other things, involves the identification and elimination of all the activities that fail to create value for customers. The integral part of the lean philosophy is the concept of *Just in time* -JIT production and supply whose essence lies in the fact that purchased material arrives in the company at the time when it should go into production, that semi-finished products are finished just when needed for the assembly of final products, and that final products are completed just in time to be shipped to customers.’⁸

Although many domestic enterprises will not manage to operate without keeping stocks, it is quite certain that they will indeed be able to reduce the cost of keeping

⁷ Burns, J., Baldvinsdottir, G. (2007). *The Changing of Management Accountants*, in: *Issues in Management Accounting*, ed. by Hooper, T., Horthcott, D., Scapens, R., Prentice Hall, London, p.119.

⁸ Garrison, R., Noreen, E. (2003). *Managerial Accounting*, Mc Graw-Hill, Inc., New York, p. 13-17.

stocks, free up huge storage areas for other purpose, unleash investments related to the coverage of the current production of high levels of inventories, and direct them to other areas of the business with a higher rate of return. Informational support for the concept of lean production comes in the form of the so-called Kaizen Costin, which should provide information on reducing costs in all stages of the production process.

Total Quality Management (TQM) has become the control concept that requires all the employees to be quality-oriented.

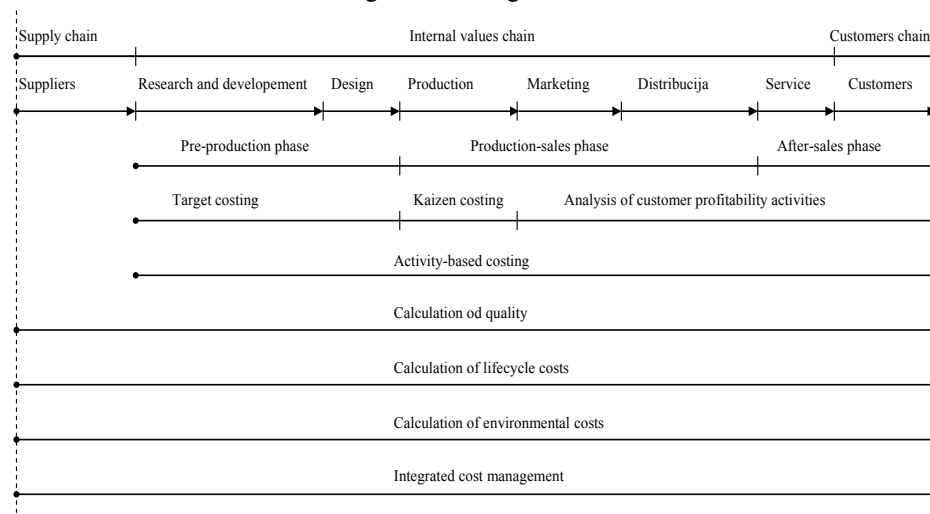
It involves a comprehensive approach to being focused on total quality and long-term success, where everyone in the company is involved in the creation and improvement of quality in the performance of their duties and where attention is directed to continuous improvement, product reliability and manufacturing standards by the customer, where the assumptions for the above are generated in design and construction phases.

Measurement of quality costs truly causes a lot of attention. They are not monitored within accounting as the government Chart of Accounts does not prescribe such an obligation. This means that they are hidden (latent) and that they are itemized as long-term costs. Successful implementation of the quality management system must meet the following basic requirement: that total annual costs are significantly reduced, much more compared to the amount of the cost of implementation of quality management systems. In these circumstances, redesigned support management information for decision-making appears as necessity, based on new approaches and concepts of cost and performance.

Traditional cost accounting systems as a long-term basis for the operational management decisions have included only the costs within the internal value chain. Costs within the external value chain remained beyond their reach.

There are some modern cost accounting systems, such as costing according to activities, costing based on target costs, according to life-cycle stages, costing through the value chain, costing based on continual savings, Kaizen Costing, costing according to the characteristics of products, cost of quality, cost protection environment, integrated cost management, etc. All this can be an illustrated as follows:⁹

Cost management through the value chain



⁹ Lale, V., *Accounting* (2014). Faculty for business studies and law, University "Union-Nikola Tesla", Belgrade, p.602.

Domestic companies have no experience nor do they apply modern accounting systems or concepts of cost management, which are used in developed countries. They have no charts of accounts or analytic chart of accounts developed for these purposes. In order for these to be applied it is necessary to have more engaged relations between corporate and accounting management professions in the transfer of the necessary knowledge, skills and experience from countries that have successfully been using these concepts for prolonged periods of time.

This would raise the level of knowledge in the use of modern accounting concepts and techniques in the management and reduction of costs and hence profit ability and competitiveness. In the opinion of expert authorities in our country in this field¹⁰, the presence and influence of many foreign companies in our country, with billions of euros of invested capital, may bring along implementation of new, market-oriented concepts and accounting systems into our businesses, too.

Valorization of accounting management information

The validity of accounting information for management as the basis for decision making in the decision-making process is valorized according to real terms. There is a problem in evaluation of the provided information because they are often not directly expressed through the degree of usefulness. For these reasons, benefit is measured by the amount of damage that would be suffered by the company should management accounting fail to present data in the first place.

Here it is very important that we immediately determine the starting position of the scientific approach to this matter, because it is the duty of each author to the reader of the given paper to state from the beginning which scientific views he represents, for the simple reason to save time and effort for the reader of the text which he otherwise would not read in other circumstances. The entire access philosophy that we advocate in this paper is based on the dynamics of costs, revenues and financial outcome, as follows:

Business processes of marketing and sales are primarily aimed at pushing the income dynamics upwards, not in the way that they should aggressive approach promote false values, but the values of quality performance (products and / or services) for all users. Most certainly, the stated goal is not at all easy, especially in terms of domination of supply regarding production programs, methods and sales channels.

Management Accounting is supposed to support the information, which means that a variety of methods and concepts turn the focus on the scope and schedule of costs in order to move them down, in cooperation with business processes through a chain of internal and external value chain, which is also highly complex and responsible task, as it collects, processes, presents and interprets information that may be relevant to¹¹:

- formulation and implementation of corporate strategy and business units, which include projections of the feasibility of investing in capacity expansion, new product development, information on competition, customers, suppliers and other partners;
- decision-making regarding the allocation of internal resources to integral parts of the company, its programs and individual products, including reports

¹⁰ Malinić, S.(2008). *Management Accounting*, Faculty of Economics, University of Kragujevac, p. 244

¹¹ Horngren,C., Bhimani, A., Datar, S., Foster, G.(2002). *Management and Cost Accounting*, Prentice Hill, London, p.5.

- on the profitability of the parts, products, current and potential customers, distribution channels, etc.;
- strategic and operational systematic periodic planning and control of performance parts and the company as a whole, which includes projections of revenue, expenses, results, assets, liabilities and equity in the form of strategic and operational budget;
 - the need to appraise the performance of the parts of the company, of profit and investment centers and sub-accounting responsibility centers and their managers, using financial and non-financial measures;
 - cost - benefit analysis for the implementation of each strategic, operational, business and financial decision (to produce or acquire, to sell semi-product or to finalize it, leave or keep the product, introduce a new product);
 - design motivation strategy which means establishing relations between compensations and performance;
 - creation of a healthy financial structure and early warning signals regarding risks to which enterprises is exposed.

Dynamics of revenue and cost dynamics are aimed at increasing the financial effects shown by profit zone and loss zone. In this regard, maximizing business performance and thus overall financial results over the long term represents one of the supreme goals of each company, which is why managers in the business activities feel that there main problems arise from the management of revenues and expenditures, and within that short term results viewed by individual business segments have the role of planning control points that managers must achieve on the way to maximize the business and overall financial results.

Operating result as the net value of careful combining of the volume of activity, income and expenses is under the direct impact of management decisions, which is why it must be subject to careful planning, measurement and control that is implemented over the whole enterprise, both vertically and horizontally in the management pyramid. That is why performance management presumes proper management information, in which accounting management in the field of IT can continuously provide support:

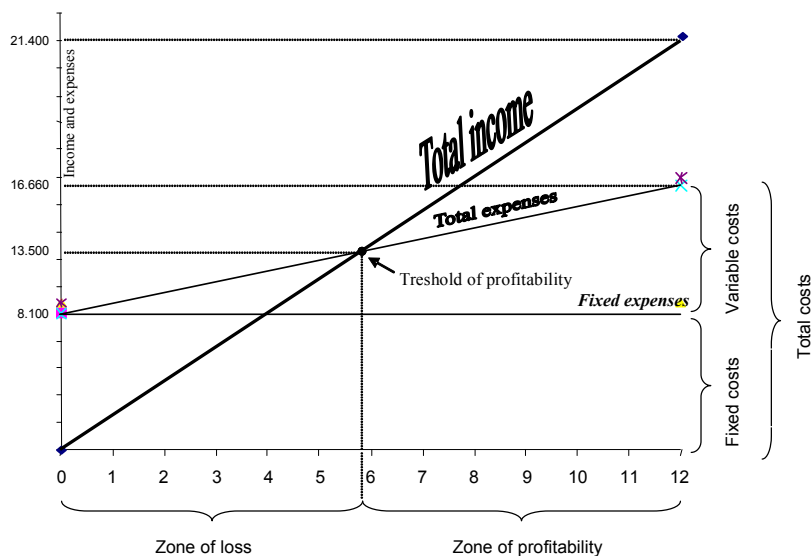
- Analysis of break-even points, i.e. analysis of the profitability threshold or cost, volume, profitability of CVP analysis, which represents a systematic method of relations that exist between the volume of activity on the one hand, total revenue and total cost broken down to variable and fixed costs, on the other hand.

The analysis of break-even point displayed in diagram in a very clear way of shows the financial impact resulting from dynamic interrelations between costs, revenues and financial results, as well as the difference compared to the extent of economic activities in the accounting period, which explains the philosophy advocated in this paper, as the following example from the aviation sector of the domestic economy clearly shows:

Table 1. Realized revenues, expenditures and financial results during the accounting period

REALIZED REVENUES, EXPENDITURES AND FINANCIAL RESULTS IN THE ACCOUNTING PERIOD	AMOUNT IN 10 ³ MONETARY UNITS (MU)	
	Pre-column	Main column
1	2	3
1. Total revenues		21.400,00
2. Variable costs (2.1. до 2.4)		8.560,00
2.1. Costs of raw materials	3.861,00	
2.2. Energy costs in manufacturing	640,20	
2.3. Production services	420,80	
2.4. Salaries in manufacturing	3.638,00	
3. Contribution (marginal) profit (1-2)		12.840,00
4. Fixed costs (4.1 до 4.5)		8.100,00
4.1. Cost of office materials	1.040,00	
4.2. Overhead costs	560,00	
4.3. Non-production services	120,00	
4.4. Depreciation and amortization	3.314,00	
4.5. Salaries – overhead costs (gross)	3.066,00	
5. Total costs (2+4)		16.660,00
6. Gross profit (3-4) или (1-5)		4.740,00
6.1. Profit tax 10% (6 • 10%)		474,00
6.2. Net profit (6 - 6.1)		4.266,00
7. Rate of contribution (marginal) profit (3/1) • 100		60%
8. Break-even point i.e. profitability threshold (4/7)		13.500,00

Diagram 1. Break-even points, i.e. thresholds of profitability



After analyzing the break-even point, we then perform the dynamic sensitivity analysis, which means that we recalculate the break-even point with the changing positions of income and expenses, with three possible outcomes:

(1) Break-even point is not moving, i.e. it remains the same, if at the same extent of realization neither total revenues nor total costs change. When the break-even point does not move, with the same extent of realization neither the loss zone nor the profit zone change.

(2) Break-even point moves upward, if with the same volume of realization the total costs (expenses) keep growing, and revenues remain the same. Total costs (expenses) may increase with the increase of fixed and hence total costs, with variable costs remaining the same, or through the increase in variable and thus total costs, with fixed costs remaining the same. When the break-even point moves upwards, with the same extent of realization, the loss zone increases and the profit zone decreases.

(3) Break-even point moves lower, if with the same volume of realization revenues increase and total costs (expenses) remain the same. With the same extent of realization, revenues can grow at the level of increase in the physical volume of effects (products and / or services) with the selling prices remaining the same, or this can happen through the increase in selling prices with the physical extent of realization remaining the same. When the break-even point moves downwards, the loss zone increases and the profit zone increases.

The break-even point is the moment where realized volume, costs and revenues are leveled, i.e. equal. In the above-mentioned example, the break-even point is 13,500 MU i.e. the point where the volume of 12,617 produced pieces the cost and revenues are at 13.500 MU (12,617 pcs • 1,070 MU).

At the realized volume that is lower than 12,617 pieces (products), the company is in the loss zone; at the realized volume that is higher than 12,617 pieces (products), the company is in the profit zone, assuming that with the realized volume the company's position at the supplies market and sales market remains the same. In case there is change of the company's position in the supply and sales markets, the position of the break-even point would change, thus changing the profit and loss zones.

As business activities are regularly planned in the business plan, it is necessary to determine the deviation of realized vs. planned extent of realization, and just how much of this discrepancy is due to physical volume and to sales price, as evident from the following table:

Table 2. Planned and realized extent of realization

DESCRIPTION	REALIZED (AMOUNT)	
	Planned	Realized
1	2	3
1. Extent of realization in physical units	19	20
2. Sales price in 10 ³ MU	980.00	1,070.00
3. Extent of realization in 10 ³ MU (1x2)	18,620.00	21,400.00

Determination of impact of the physical volume of realization and actual selling prices compared to their size in the planned business plan should be performed by the method of causation as follows:

$(\text{Realized volume in physical units} \times \text{realized selling price}) / (\text{Planned volume of realization in ph. units} \times \text{planned selling price}) = (\text{Realized volume in physical units} \cdot x$

realized selling price)/(Realized volume in ph units x planned selling price) x (Realized volume in physical units x plannes selling price)/(Planned volume of realization in physical units x plannes selling price)

$$(20 \times 1.070,00) / (19 \times 980,00) = (20 \times 1.070,00) / (20 \times 980,00) \times (20 \times 980,00) / (19 \times 980,00)$$

$$(21.400 / 18.620) = (21.400 / 19.600) \times (19.600 / 18.620)$$

$$1,1493 \cdot 100 = (1,091836 \cdot 1,05263) \times 100$$

$$114,93\% = 109,184\% \cdot 105,263\%$$

Using the method of causation, it was discovered that the actual volume exceeded the planned volume of production by 14,93% (about 15%), which was created by the impact of realized selling prices by 9.18% and due to the impact of realized physical volume by 5.26% , which means that the realized volume, shown as value, was predominantly influenced by the actual selling prices, not the physical volume.

In addition to the relative share of the realized selling price and the actual physical volume in relation to the planned volume of realization presented in%, it is also necessary to determine the total deviation of the realized volume in relation to the planned volume of production in MU. Further, it is necessary to determine to what extent his deviation is influenced by the realized volume expressed in physical pieces. The determination of these discrepancies is performed by using the method of elimination through conditional size, as follows:

Table 3. Planned and realized extent of implementation and deviations due to price impact and influence of the physical volume

PLANNED EXTENT OF REALIZATION IN 10 ³ MU	CONDITIONAL SIZE IN 10 ³ MU	REALIZED EXTENT OF REALIZATION IN 10 ³ MU	DEVIATION IN 10 ³ MU		
			Total deviation	Price impact	Impact of ph. volume
Planned extent x Plan. sell. price	Realized extent x Plan. sales price	Realized extent x Realized sales price	4=3-1 (5+6)	5=3-2	6=2-1
1	2	3			
18,620 (100%)	19,600	21,400.00 (114.,93%)	2,780 (14.93%)	1,800 (9.18%)	980 (5.26%)

In the above example, the deviation, i.e. the excess of realized in relation to the planned scope of realization is 2,780 MU (monetary units) or 14.93%, due to the substantial impact of the realized sales price in the amount of 1.800 MU or 9.18%, and to a lesser extent due to the actual physical volume amounting to 980 MU or 5.26% (1.800 MU + 980 = 2780 MU), and (105.263% 109.184 • = 114.93% - 100% = 14.93%).

Conclusion

In order to acquire higher professional rating and confidence from the owners, modern management must possess knowledge that is not limited by a single profession. Partial knowledge does not provide the ability to see whole position with all its aspects that can be – through professional attitude - relatively quickly remedied.

It is for these reasons value of the informational support for management accounting in business decision-making process can be measured only on the basis of its usefulness. This support stems from the analytical results of accounting forwarded to

management; these results serve as the basis in the enactment of business decisions at the highest point of the vertical control.

Domestic companies fail to apply modern accounting system and the concepts of cost management, which are used in developed countries. In order to be able to apply the following concepts, it is necessary to provide for a more engaged attitude, both in corporate and accounting management profession, in the transfer of the necessary knowledge, skills and expertise from countries that have been successfully using these concepts for extended periods of time. This would raise the level of knowledge in the use of modern accounting concepts and techniques in the management and reduction of costs and hence profit ability and competitiveness.

That it is necessary, among other things, to introduce a higher level of IT support for management accounting in strengthening the management structure of competence of local companies, we are relentlessly warned by the following comparative effects of the countries that emerged from the ex Socialist Federal Republic of Yugoslavia (SFRY):

The effects of the transition to the states of the SFRY in 2001 - 2010

EFFECTS	BIH	CRO	MAC	MNG	SLO	SRB
1. GDP growth rate (%)	4,5	2,8	2,2	3,5	2,8	4,3
2. Industrial production- growth rate (%)	5,0	2,6	0,8	-0,1	4,0	0,6
3. The share of industry in GDP (%)	18,3	17,9	20,5	/	24,2	22,7
4. Unemployment (%)	36,6	12,2	34,5	26,9	6,0	30,1
5. Inflation (%)	2,0	2,8	2,1	6,7	3,9	13,5
6. Fiscal Deficit (%)	-0,8	-3,9	-1,8	-0,9	-2,7	-2,4
7. The ratio of public debt to GDP (%)	30,7	32,0	33,0	37,5	28,5	59,1
8. GDP per capita (USD)	3.318	10.227	3.057	3.992	18.117	3.824
9. The ratio of trade balance to GDP (%)	-13,1	-6,0	-6,4	-20,1	-1,9	-9,1
10. The ratio of external debt to GDP (%)	47,8	72,4	49,2	55,3	75,9	70,2
11. The ratio of external debt to exports (%)	154	156	114	/	110	256
12. Exports per capita (USD)	731	2.202	1.077	785	9.444	758
13. FDI per capita (USD)	179	509	166	683	59	236
14. Debt per capita (USD)	1.516	8.084	1.544	2.746	14.883	2.745

(Source: Savic, Lj, professor at the Faculty of Economics, Belgrade, *Politika*, 4 Jan 2013)

These effects indicate that Serbia as a country in transition is in a rather complex economic situation, and in the second decade of the third millennium it must do everything possible to achieve much better effects in strengthening and developing its economy. Without strengthening professionalization and managerial competence this will not be possible. It seems that times of unprofessional management and wrong choices are gone, in both the private and especially in the public sector. Most certainly, in all of the above, in accordance with the objectives and measures that the government wants to achieve, role and importance of IT support steadily grows in making business decisions based on accounting management, application of modern concepts and management costs implemented in the developed countries of the world.

References

- Andjelković, M., & Radosavljević, Ž., (2010). Corporative management in conditions of economic crisis. *Ekonomika*, (1), 71-86.
- Burns, J., & Baldvinsdottir, G. (2007). *The Changing of Management Accountants, in: Issues in Management Accounting*, ed. by Hooper, T., Horthcott, D., Scapens, R., Prentice Hall, London.
- Drucker, P. (2003). *My view of management*, Adžes, Novi Sad.
- Garrison, R., & Noreen, E. (2003). *Managerial Accounting*, Mc Graw-Hill, Inc., New York.
- Horngren, C., Bhimani, A., Datar, S., & Foster, G. (2002). *Management and Cost Accounting*, Prentice Hill, London.
- Lale, V. (2014). *Accounting*, Faculty for business studies and law, University “Union-Nikola Tesla”, Belgrade.
- Lale, V. (2010). Establishing of corporate business system in local companies by introducing profit decentralization and subcontractor competences. *Ekonomika*, (3), 104-116.
- Malinić, S. (2008). *Management Accounting*, Faculty of Economics, University of Kragujevac.
- Malinić, D., Miličević, V., & Stojanović, N. (2012). *Management Accounting*, Faculty of Economics in Belgrade.
- Maurer, D. (2004). *Kaizen Way*, Workman Publishing, New York.
- Radosavljević, Ž., Andjelković, M., & Radosavljević M., (2010). Competencies corporate governance in Serbia. *Ekonomika*, (3), 1-20.
- Wilson R., & Chua Fong W. (1993). *Management Accounting*, Chapman & Hall, UK.

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SCIENTIFIC REVIEW ARTICLE
Received: August 28, 2014
Accepted: October 01, 2014

VIRAL MARKETING

Abstract

The focus of this paper is viral marketing – the process of creating, receiving, sending and forwarding “virus”-marketing messages. Model “5C” is presented according to which the passing on of viral marketing messages depends on consumers, category, company, content (of message) and context. Viral messages can be created by both the representatives of a company and consumers (like individuals or in communities), but they are being passed on by consumers. When a company creates a viral message, it is “only” necessary to create “the right marketing message” (with the right content) - with a viral potential – virus and pass it on to the “right users-consumers” in the “right context”. Since the users of digital media and/or consumers also create and pass on messages, companies have to check and “direct” all viral communications (related to the company) in a desired direction.

Key words: viral marketing, viral communications, viral messages, 5C model

JEL Classification: M30, M31, M37, M39

ВИРАЛНИ МАРКЕТИНГ

Апстракт

У фокусу рада је вирални маркетинг – процес креирања, примања, слања и прослеђивања “вируса” – маркетиншких порука. Представљен је “5Ц” модел, према коме, преношење виралних маркетиншких порука зависи од потрошача, категорије (производа), компаније, садржаја (поруке) и контекста. Поруке-вирусе могу да креирају и представници компаније и потрошачи (као појединци и у заједницама), али исте даље прослеђују потрошачи. Када компанија креира виралну поруку, потребно је “само” да креира “праву маркетиншку поруку” (са “правим садржајем”) - са виралним потенцијалом – вирусом и прослеђује даље “правим корисницима-потрошачима” у “правом контексту”. С обзиром да и корисници дигиталних медија и/или потрошачи, такође, креирају и преносе поруке, компаније морају да прате и “усмеравају” све виралне комуникације (које се односе на компанију) у жељеном смеру.

Кључне речи: вирални маркетинг, виралне комуникације, виралне поруке, “5Ц” модел

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Introduction

In digital environment, consumers can send to each other marketing messages like “viruses”. Marketing messages can be forwarded quickly at low costs to a great number of acquaintances, friends and even to complete strangers. Simplicity, the speed of messaging, great coverage, trust (by the recipients, especially when they receive messages from the people they know) are only a couple of the characteristics that influence the importance of viral marketing. The research and the hypotheses are focused on the factors that have impact on viral marketing. This paper is organized as follows. First, we provide a review on the literature related to “viruses” in marketing. Then, we analyse the process of creation, receiving, sending and passing on of marketing messages – “viruses: 5C model. Next, we present method and results. Finally, we summarise the findings.

Theoretical foundations and development hypotheses

Virus in marketing

Viral marketing has developed as a result of advancements in digital technology and can be regarded as a critical electronic extension of WOM communication, not a mere development of WOM (Bickart & Schindler, 2002; Cruz & Fill, 2008). Online social network in general and Facebook, as the biggest network, in particular, became a very attractive platform for many companies for viral marketing. The use of viral marketing and electronic word of mouth is the main strength of the social networks as members are connected to each other in a way that increase the trustworthiness of the messages that are transferred among friends (Gil-Or, 2010, p. 7).

According to Vilpponen et al. (2006, p. 72) and Cruz & Fill (2008, p. 745) some of the terminology used to describe electronic WOM includes “Interactive Marketing” (Blattberg & Deighton, 1991), “Internet word-of-mouth” and “word-of-mouse” (Goldenberg et al., 2001; Sudarević, Vlahović, B & Šurjanović, 2013), “stealth marketing” (Kaikati & Kaikati, 2004), “viral stealth marketing” (Swanepoel, Lye & Rugimbana, 2009) and “referral marketing” (De Bruyn & Lilien, 2004). Thomas (2004) tries to unify these ideas in the term “buzz marketing” (Cruz & Fill, 2008, p. 745; Vilpponen et al, 2006, p. 72). Another popular term for viral marketing is “word of mouse” marketing. This is because the strength behind the viral marketing concept lies in that it leverages the power of word of mouth communication between individuals using an electronic medium (Helm, 2000, p. 158; Subramani & Rajagopalan, 2002, p. 2; Swanepoel, Lye & Rugimbana, 2009, p. 10). Swanepoel, Lye & Rugimbana (2009, p. 10) state that for viral stealth marketing different terms are being used (sometimes synonymously) such as stealth, undercover, below-the-radar, guerrilla, shill and buzz marketing.

Beckmann and Bell (2000) point out the differences between viral marketing and WOM:

- speed and coverage - viral messages are spread more rapidly and to a wider audience than traditional WOM.
- Stimuli - viral messages rely more on a combination of visual and verbal stimuli than traditional WOM, which relies largely on face-to-face communication.
- Control of content - in viral marketing, it is easier to control the nature and content of the message than traditional WOM, which relies solely on the sender. For example, the tagline used by hotmail could be largely controlled by the company, unlike traditional WOM messages.
- Monologue versus dialogue - whilst traditional WOM typically involves two-way communication where the receiver will attend to the whole message, this is not necessarily the case with viral marketing.

The term viral marketing is first mentioned in 1996 by Rayport in his article: “The virus of marketing”). Rayport (1996) states that when it comes to getting a message out with little time, minimal budgets, and maximum effect, nothing on earth beats a virus. Marketing messages like viruses spread exponentially, so the term viral marketing is used. Some commentators, including Welker (2002), see an analogy between viral marketing and a living biological virus. Welker (2002, p. 3) stresses the contagious power of a virus and suggests that a “virus replicates (itself) with geometrically increasing power, doubling with each interaction” (Cruz & Fill, 2008, p. 745). Dobele, Toleman & Beverland (2005) speak about spreading the brand message through viral marketing as controlled infection. “Like their microscopic namesakes, ‘viral’ WOM messages can quickly and exponentially replicate themselves” (Strutton, Taylor & Thompson, 2011, p. 559).

Viral marketing is an Internet adaptation of marketing using the word-of-mouth effects, a phenomenon originally identified by Rogers (1995) in the context of the diffusion of innovations (Kalyanam, McIntyre & Masonis, 2007, p. 72).

Wilson (2000, p. 1) defines viral marketing as “any strategy that encourages individuals to pass on a marketing message to others, creating the potential for exponential growth in the message’s exposure and influence”.

Kaplan & Haenlein (2011, p. 255) define viral marketing as “electronic word-of-mouth whereby some form of marketing message related to a company, brand, or product is transmitted in an exponentially growing way, often through the use of social media applications”. In this definition, two elements are of great importance. The first is a growth, or reproduction, rate greater than one; this implies that each receiver passes the message to more than one other person. The other important thing is the use of social media for the above mentioned fast spreading of messages – viruses.

According to *AMA* definition, viral marketing is “a marketing phenomenon that facilitates and encourages people to pass along a marketing message. Nicknamed viral because the number of people exposed to a message mimicks the process of passing a virus or disease from one person to another.” Viral marketing is “the process of getting customers to pass along a company’s marketing message to friends, family, and colleagues” (Laudon & Traver, 2001, p. 381).

The aim of viral marketing is to provide communications among consumers (*consumer-to-consumer, i.e. peer-to-peer*), as opposed to communications between a company and a consumer (*company-to-consumer communications*) for further information spreading. This enables faster and cheaper information spreading (Bruyn & Lilien, 2008).

Thus, the essential characteristics of viral marketing are high speed of spreading marketing messages - “viruses” (Camarero & Jose, 2011; Kaplan & Haenlein, 2011; Yang et al, 2010), communications among consumers in the process of forwarding information (Kaplan & Haenlein, 2011), consumers have more confidence (Yang et al, 2010), it is more trustful for many consumers, forwarding electronic messages is voluntary rather than a paid testimonial or a mass ad campaign and thus may be viewed more favourably by the recipient (Dobele, Toleman & Beverland, 2005), great coverage (Camarero & Jose, 2011; Kaplan & Haenlein, 2011; Yang et al, 2010), low budget (Camarero & Jose, 2011; Dobele, Toleman & Beverland, 2005; Kaplan & Haenlein, 2011; Yang et al, 2010), simplicity, ease (Camarero & Jose, 2011).

Passing on messages can be intentional or unintentional (Bruyn & Lilien, 2008). When forwarding messages is not intentional, consumers are not intentional actors. An example for this is Hotmail where each sent e-mail contains a promotion of a company (“Get Your Private, Free E-mail at <http://www.hotmail.com>”). Users who send e-mails from Hotmail account automatically promote service to every person they sent an e-mail. The most common form of intentional viral marketing is performed when consumers

willingly become promoters of products and spread information to their friends. They can be driven by explicit incentives (e.g. financial) or simply by the desire to share information about the benefits of certain products with their friends.

Aral and Walker (2011) propose that we should forget viral marketing in the traditional sense, and make the product itself viral. Companies shouldn't spend time saturating YouTube with goofy videos, hoping one of them will be the next viral marketing sensation. Companies can engineer digital (and even physical) products to increase peer-to-peer promotion. Aral and Walker (2011) illustrated the explosive effect on adoption among 2 million Facebook users when viral features, such as user-generated personalised invitations, were added to a software app for sharing and discussing film-industry information. Simply adding a “Share” button to product can increase peer-to-peer influence over product purchase by 400%. “Viral product design has been shown to be up to 10 times as effective at increasing adoption as traditional banner ads and up to twice as effective as e-mail campaigns” (Aral & Walker, 2011, p. 34), so that viral products are more effective than traditional marketing. Having in mind viral product features (product with active and passive viral features) and targeted users (broad population and specific individuals) Aral and Walker (2011) propose following viral products:

- User-generated notifications - such as “Tweet” and “Share” buttons (product has active viral features for broad population);
- Automated notifications - such as iTunes Ping and Google Buzz (product has passive viral features for broad population);
- Personal invitations - such as those provided with Google beta products (product has active viral features for specific individuals);
- Automated targeting - such as Amazon's social product recommendations (product has passive viral features for specific individuals);
- Social offers - such as LivingSocial's group couponing; and
- Embedded offers such as free account sign-ups in e-mail messages.

The process of creating, receiving, sending and forwarding “virus”-marketing messages: 5C model

Kaplan & Haenlein (2011) state that there are three necessary conditions for a successful viral marketing: Condition 1 – messengers; people who transmit messages, condition 2 - message and condition 3 - environment. That is, you need the right people to send the right message in the right circumstances. The first condition is related to the selection of right people to spread the message. There are three groups of message transmitters:

- Market mavens (“receivers”) - individuals who have access to much information; they are proactively engaged in discussions with other consumers in order to diffuse and spread information. They are among the first to receive messages and send them to their immediate social network. When market experts forward a message to social hubs, the “epidemic” begins.
- Social hubs (“distributors”) are people with a very large number of connections. They may be “connectors” or “bridges” between different subcultures.
- Salespeople (“amplifiers”) are needed when the direct relationship between market experts and centres is not sufficient. Sellers receive a message, make it important and convincing, and pass it on to community centres.

Messages have to be both memorable and interesting in order to have the effect of virus. At last, the number of message transmitters in the environment is very important, at least in

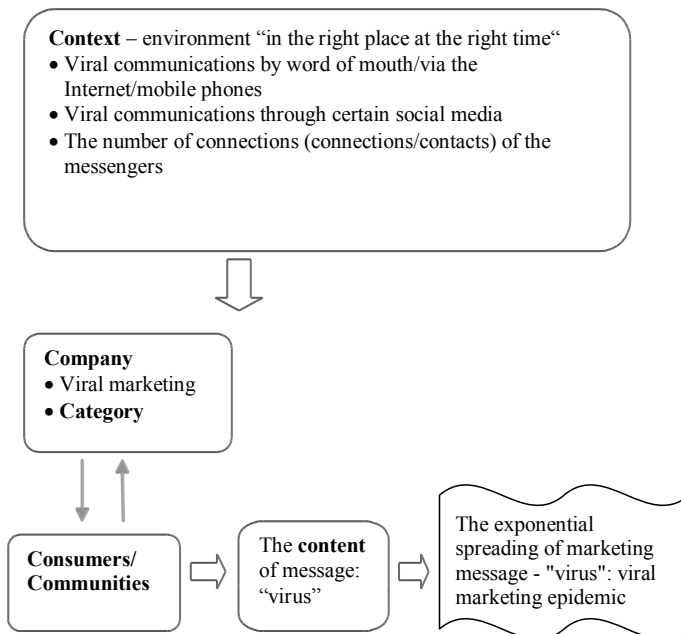
the beginning. It is considered that an average person has 150 contacts as the maximum number of people with whom he/she can maintain stable social relationships during a day.

Camarero & Jose (2011) introduce the term viral dynamics which refers to the process of receiving, sending and/or forwarding messages from one person to another in their network of contacts.

Dobele (et al, 2007) gives the following answer to the question “Why pass on viral messages?” – Because they connect emotionally. They identify that successful viral marketing campaigns trigger an emotional response in recipients. In order to be effective, viral messages need to contain the element of surprise. By itself, however, surprise is not enough to guarantee message success; therefore, it must be combined with other emotions. To ensure forwarding behaviour, the message must capture the imagination of the recipient, as well as be clearly targeted.

Figure 1 shows five key conditions (5C model) for the successful transmission of viral marketing messages. They are: 1. consumers, 2. category (of product), 3. company (holistic marketing of company), 4. content of message - “virus” and 5. context - environment. “Viruses” can be created both by companies and consumers. Consumers are differently engaged in different product categories. The scope and the speed of messages transmission depends on the environment - the context. Messages can be transmitted by word of mouth, the Internet and mobile phones. Also, messages can be transmitted through various social media (networking sites, blogs, etc.). The choice of specific ways of communications and media at a certain point (“the right messenger at the right place at the right time”) can affect the extent and the speed of messages spreading. Messengers have a different number of connections with other users (e.g. social media) which can affect the success of viral marketing.

Figure 1 The process of creating, receiving, sending and forwarding marketing messages - “viruses”: 5C model



Source: Adapted from: Kaplan & Haenlein, 2011, p. 256.

For the success of viral marketing the development of an engaging campaign that encourages consumers to pass the message along is necessary. Consumers are encouraged to spread these marketing messages voluntarily if the messages:

1. capture the imagination by being fun or intriguing,
2. are attached to a product that is unique (such as collapsible scooters), easy to use or highly visible (Gucci baguette bags, Palm Pilots),
3. are well targeted - the influence and, in some cases, the power of reference groups or opinion leaders in individual decision-making is significant,
4. are associated with a credible source - the greatest strength of the common referral is that it is believable, and
5. combine technologies to spread the virus (Dobele, Toleman & Beverland, 2005).

Kalpakioglu & Toros (2011) state the basic viral marketing techniques: advergames, e-mailing, blogging, moblogging, vlogging, wikis, social networking sites, rate and review sites.

Kaplan & Haenlein (2011) have given five pieces of advice when spreading a virus:

1. Viral marketing is only as good as the remaining marketing mix - besides “viral marketing message,” a good product is needed, a product with reasonable price, available in distribution channels;
2. Viral marketing needs to be backed up by traditional forms of communication – viral marketing is only a part of integrated marketing communications;
3. Excessive planning and intervention kills any viral marketing campaign – it is better to let consumers to “spread viruses” – messages, with no intervention;
4. Highly provocative and edgy messages are a tricky business – good viral marketing messages have to be both memorable and interesting.
5. Successful viral marketing requires a little bit of luck and gut feeling because even the changes in the environment (beyond power and influences of organizations) can influence the effects of the campaign.

On the basis of the literature and the factors that influence viral marketing presented by “5C” model, the following hypotheses have been set up:

Hypothesis 1: Passing on viral marketing messages depends on the profile of consumers.

Hypothesis 2: Passing on viral marketing messages depends on the category of products.

Hypothesis 3: Passing on viral marketing messages depends on the company (viral and holistic marketing of company).

Hypothesis 4: Passing on viral marketing messages depends on the content of message - “virus”

Hypothesis 5: Passing on viral marketing messages depends on context – environment.

Method

The survey was conducted on the territory of the Republic of Serbia, 2013. The study was conducted on a sample of 200 individuals between 16 and 74 years. Respondents, according to their age, were divided into the following groups: 16-34 (22%), 35-54 (30%), 55-74 (48%). According to gender, the sample consisted of 51% of women and 49% of men. According to educational level, the respondents were grouped using EUROSTAT classification: 0-2 basic, lower secondary education (preschool education; primary education or first phase of the primary education – first to fifth grade; lower high education

– 6th to 9th grade); 3-4 higher secondary education (high school; - 1st to 4th grade; post secondary but not tertiary education – first degree studies); 5-6 tertiary education (higher education, Master studies and PhD studies). In the sample, 25% of respondents had lower than secondary education, 50% had secondary education and 25% had tertiary education. According to employment status, the respondents were divided into following groups: employed (30%), unemployed (25%), students (7%), other but unemployed (38%). According to income of the households where they live, the respondents were divided into following groups: up to 300 euro (68%), 300-600 euro (21%), over 600 euro (11%).

Results

Passing on viral marketing messages depends on the profile of consumers. Consumers behave in different ways while spreading messages. When asked whether they spread marketing messages – “viruses”, the answers of respondents according to age group were positive in 86% (aged 16-34), 67% (35-54), 26% (55-74); according to education: 7% (lower than secondary education), 87% (secondary education) and 46% (tertiary education); according to employment: 47% (employed), 24% (unemployed), 92% (students), 26% (other but unemployed).

Passing on viral marketing messages depends on the category (of products). The question: For what categories of products do you spread marketing messages – “viruses”, was also answered differently. The majority of respondents in the age group of 16-20 years, state the categories in the field of entertainment (86%), music (84%) and (78%). But, already in the group of 25-34 years some categories are related to durable goods. In the group of 35-54 years, viral messages are transmitted in the categories related to healthy foods (64%), cars (57%), travel (58%) and so on. Students especially transmit messages related to free books (74%) and travel (68%).

Passing on viral marketing messages depends on the company (viral and holistic marketing of company). When asked whether they spread viral messages created by companies, the majority of respondents (even 91%) stated that they spread these messages if the product is good. But they spread messages even if they are dissatisfied with a product. This can bring us to the conclusion that holistic marketing activities are necessary to be used.

Passing on viral marketing messages depends on the content of message-“virus”. When asked whether the content of a message is important for them in order to pass the message on, the majority (86%) stated that content is particularly important for attracting attention. Respondents quickly pass on interesting messages.

Passing on viral marketing messages depends on context – environment. Among digital media, younger consumers prefer mobile phones. When it comes to social media, social networks (Facebook and Twitter) are especially favoured. Younger consumers have a significantly higher number of connections / contacts comparing to other age groups. So, for the young, the right context, for example, is Facebook through a mobile phone. For the age group of 35-54 years, the right context would be e-mails (but only from friends and acquaintances) and Twitter. For older (55-74), the “right context” would be direct face to face communications.

Discussion and conclusions

Kaplan and Haenlein (2011) talk about changing of power of certain forms of communication - for example, they talk about the decrease of significance of telemarketing

and television advertising, which probably will happen also to viral marketing in future. From “infection to immunity” there are only a few steps. Just as people can improve their immunity and become resistant to viruses and diseases, so viral marketing can lose its power. Until then, given the high current power of viral marketing, the following conclusions, based on the research results, can be made. The younger the consumers are, the more likely they are to participate in viral communications. Viral communications are more present in the categories of products used by young people. Marketing messages with memorable and interesting content attract attention and encourage viral communications. Digital environment encourages users to perform viral communications and it influences the scope and speed (of communications). “The right message sent at the right time to the right user in the right context – e.g. through the right media” can be much more effective compared to the same message sent to another user in another time, through other media. In brief, the understanding of five key conditions (5C model) for the successful spreading of viral marketing messages - consumers, category (of product), company (holistic marketing of company), content of message - “virus” and context – environment, is the basis for viral marketing of companies.

References

- American Marketing Association - AMA (2013). Dictionary. Retrieved July 28, 2013, from http://www.marketingpower.com/_layouts/Dictionary.aspx?dLetter=V
- Aral, S., & Walker, D. (2011). Forget Viral Marketing-Make the Product Itself Viral. *Harvard Business Review*, 89(6), 34-35.
- Beckmann, S.C., & Bell, S. (2000). *Viral Marketing = word-of-mouth marketing on the internet? (And a case story from the Nordic countries)*. In O’Cass, A. (ed.), *Visionary marketing for 21st century problems*, Gold Coast, Queensland, Australia: Griffith University.
- Bickart, B., & Schindler, R.M. (2002). Expanding the scope of word-of-mouth: consumer-to-consumer information on the internet. *Advances in Consumer Research*, 29(1), 428-430.
- Blattberg, R.C., & Deighton, J. (1991). Interactive marketing: exploiting the age of addressability. *Sloan Management Review*, 33(1), 5-14.
- Bruyn, A., & Lilien, G. (2008). A multi-stage model of word-of-mouth influence through viral marketing. *International Journal of Research in Marketing*, 25(3), 151-163.
- Camarero, C., & Jose R. (2011). Social and attitudinal determinants of viral marketing dynamics. *Computers in Human Behavior*, 27(6), 2292-2300.
- Cruz, D., & Fill, C. (2008). Evaluating viral marketing: isolating the key criteria. *Marketing Intelligence & Planning*, 26 (7), 743-758.
- De Bruyn, A., & Lilien, G.L. (2004). A multi-stage model of word-of-mouth through electronic referrals. *eBusiness Research Centre Working Paper*, The Pennsylvania State University, State College.
- Dobele, A., Toleman, D., Beverland, M. (2005). Controlled infection! Spreading the brand message through viral marketing. *Business Horizons*, 48(2), 143-149.
- Dobele, A., Lindgreen, A., Beverland, M., Vanhamme, J., Wijk, R. (2007). Why pass on viral messages? Because they connect emotionally. *Business Horizons*, 50(4), 291-304.
- Gil-Or, O. (2010). Building Consumer Demand by using Viral Marketing Tactics within an Online Social Network. *Advances In Management*, 3(7), 7-14.

- Goldenberg, J., Libai, B., Muller, E. (2001). Talk the network: a complex systems look at the underlying process of word-of-mouth. *Marketing Letters*, 12(3), 211-223.
- Helm, S. (2000). Viral marketing – establishing customer relationships by ‘word-of-mouse’. *Electronic Markets*, 10(3), 158–161.
- Kaikati, A.M., & Kaikati, J.G. (2004). Stealth marketing: how to reach consumers surreptitiously. *California Management Review*, 46(4), 6-22.
- Kalpakioglu, N., & Toros, N. (2011). Viral marketing techniques within online social network. *Journal of Yasar University*, 24(6), 4112-4129.
- Kalyanam, K., MCIntyre, S., Masonis, J. (2007). Adaptive Experimentation in interactive marketing: the case of viral marketing at Plaxo. *Journal of Interactive Marketing*, 21(3), 72-85.
- Kaplan, A., & Haenlein, M. (2011). Two hearts in three-quarter time: How to waltz the social media/viral marketing dance. *Business Horizons*, 54(3), 253-263
- Laudon, K. C., & Traver, C. G. (2001). *E-commerce: Business, technology, society*. Boston: Addison-Wesley.
- Milovamović, S. (2013). Uloga elektronskih berzi u internet poslovanju preduzeća. *Ekonomika*, 2, 20-28.
- Rayport, J. (1996). The virus of marketing. Fast Company. Retrieved July 28, 2013, from <http://www.fastcompany.com/27701/virus-marketing>
- Rogers, E. (1995). *The Diffusion of Innovations*. NY: The Free Press.
- Strutton, D., Taylor, D., Thompson, K. (2011). Investigating generational differences in e-WOM behaviours - For advertising purposes, does X = Y? *International Journal of Advertising*, 30(4), 559-586.
- Subramani, M., & Rajagopalan, B. (2002). Examining viral marketing – a framework for knowledge sharing and influence in online social networks. *MISRC Working Paper*, Carlson School of Management. University of Minnesota, Minneapolis, 1–11.
- Sudarević, T., Vlahović, B., & Šurjanović, I. (2013). Stavovi u pogledu primene viralnog marketinga u prehrambenoj industriji u Srbiji. *Ekonomika poljoprivrede*, 60(2), 389-402.
- Swanepoel, C., Lye, A., Rugimbana, R. (2009). Virally inspired: A review of the theory of viral stealth marketing. *Australasian Marketing Journal*, 17, 9–15.
- Thomas, G.M. (2004). Building the buzz in the hive mind. *Journal of Consumer Behaviour*, 4(1), 64-72.
- Vilpponen, A., Winter, S., Sundqvist, S. (2006). Electronic word-of-mouth in online environments: exploring referral network structure and adoption behavior. *Journal of Interactive Advertising*, 6(2), 71-86.
- Welker, C.B. (2002). The paradigm of viral communications. *Information Services & Use*, 22 (1), 3-8.
- Wilson, R.F. (2000). The six simple principles of viral marketing. *Web Marketing Today*, 70, 1-3.
- Yang J., Yao, C., Ma, W., Chen, G. (2010). A study of the spreading scheme for viral marketing based on a complex network model. *Physica A*, 389(4), 859-870.

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SCIENTIFIC REVIEW ARTICLE
Received: November 07, 2014
Accepted: December 01, 2014

PERSPECTIVES OF DEVELOPING HUNTING TOURISM IN VRBAS MUNICIPALITY⁴

Abstract

Although Serbia has a generally high potential for the development of hunting tourism, they have not been fully realized adequately. In recent years, intensive talks about the “revival” of some hunting areas that were previously brought significant revenue to municipalities in which they are located. However, as one of the limiting factors for the development of hunting imposes a lack of funds for hunting infrastructure and revitalization of flora and fauna.

Vrbas, municipality previously valorize its tourism potential, primarily through hunting, and then through other forms of tourism, which it evidently available to. However, during the nineties, tourism is found on the margins of the overall economic development, to the municipality, and the whole society. Today intention of municipality is that tourists, primarily foreign, again animate and return to this important tourist destination of Vojvodina. Important role in this process will play marketing approach with all tools promotional mix.

The aim of this paper is to present resources to develop hunting tourism in the municipality of Vrbas and point out the strategic directions for its future development.

Keywords: *hunting, tourism, destination, infrastructure, income.*

ПЕРСПЕКТИВЕ РАЗВОЈА ЛОВНОГ ТУРИЗМА У ОПШТИНИ ВРБАС

Апстракт

Иако Србија има генерално велике потенцијале за развој ловног туризма, они до данас нису у потпуности валоризовани на адекватан начин. Последњих година се интензивно разговара о „оживљавању“ неких ловишта која су раније доносила значајне приходе општинама у којима су лоцирана. Међутим, као један од ограничавајућих фактора развоја ловства

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⁴ This paper work is result of the project No. 46006 – III „Sustainable agriculture and rural development in function realizing strategic goals of the Republic of Serbia in framework of Danube region“, financing by the Ministry of Education and Science of the Republic of Serbia in period 2011 – 2014.

се намеће недостатак средстава за опремање ловишта адекватном ловном инфраструктуром и ревитализацијом флоре и фауне.

Општина Врбас је раније своје туристичке потенцијале валоризовала, пре свега, кроз ловни туризам, а потом и кроз остале видове туризма који јој евидентно стоје на располагању. Међутим, током деведесетих година туризам се нашао на маргинама укупног привредног развоја, како општине, тако и читавог друштва. Данас је интенција да се туристи, а пре свега инострани, поново анимирају и врате у ову значајну туристичку дестинацију АП Војводине. Важну улогу у томе ће играти маркетинг приступ са свим средствима промоционог микса.

Циљ рада је да представи ресурсе развоја ловног туризма општине Врбас и укаже на стратешке правце његовог будућег развоја.

Кључне речи: *ловство, туризам, дестинација, инфраструктура, приходи*

Introduction

AP Vojvodina has a long tradition of hunting, but nurtures and caring attitude towards flora and fauna. Unfortunately in the last twenty years there has been neglecting the most famous hunting grounds: Plavna, Morović, Karakuša, Karadorđevo Somborske forests, Apatinski ass, Deliblato sands, as well as the largest hunting potential, Fruška Gora.

Evidently present problems that burden Serbian economy and society are transferred to the tourism sector. However, preserved biodiversity of the area of the municipality of Vrbas is the basis on which to build development of hunting tourism.

1. Analysis of the receptive capacity of the municipality of vrbas

The receptive capacities are the basis for the admission and stay of tourists. Without their existing any plan for future of tourist development is superfluous. Characteristic of accommodation capacities of the Vrbas municipality is that they can quantitatively satisfied different kind of tourist demand, which standing out as prospects for the development of the municipality, but the problem is the significant decline of their quality.

Municipality Vrbas achieved better results in tourism (overnight stays and tourists turnover) than the other municipalities in the South Backa District (excluding City of Novi Sad) in the last seven years.

In the period 2005 - 2011, based on insight into indicators of tourist movements, it can be noted that in 2007 and 2008 achieved better results than in other monitored years. Detailed view of tourist movements per year is given in Table 1.

Table 1. Travel trends for the period 2005-2012. in the municipality of Vrbas

Year	Tourists			Overnight stays			The average number of overnight stays	
	Total	Domestic	Foreign	Total	Domestic	Foreign	Domestic	Foreign
2005	5 086	4 188	898	14 593	12 518	2 075	3,0	2,3
2006	9 304	5 346	3 958	22 055	17 787	4 268	3,3	1,1
2007	10 186	4 445	5 741	19 354	12 457	6 897	2,8	1,2
2008	12 415	7 900	4 515	17 635	12 054	5 581	1,5	1,2
2009	7 520	5 555	1 965	11 226	8 770	2 456	1,6	1,2
2010	4 044	3 704	340	29 341	28 740	601	7,8	1,8
2011	4 914	3 995	919	12 951	11 577	1 374	2,9	1,5

Source: Statistical Office of the Republic of Serbia, publication “The municipalities in Serbia” for the years 2006, 2007, 2008, 2009, 2010, 2011, 2012.

Note: Average number of overnight stays was calculated by dividing the number of nights with the number of tourists. As the tourists registered in any place where he resided, in the case of changing the place comes to its restatement or duplication. Therefore, the average number of overnight stays, calculated in this manner, less than real.

Table 2. Accommodation units in the municipality of Vrbas

Type of object	Total	Category	Number of hotels units in the facility	Types of accommodation units and their number
Hotels	2	"Bačka" three star	59	22 single rooms 29 double bed rooms 2 triple bedrooms 3 four beds 3 apartment
		„Drago Jović“ three star	24	19 double bed rooms 1 single rooms 4 apartment
Motels	1	„Braća Mandić“ three star	34	6 single rooms 24 double bed rooms
Hostels	2	-	10	30
Total	4	-	104	-

Source: Municipal Administration of Vrbas, November 2013 .

Age of largest Hotel “Bačka” in Vrbas is over twenty years. The hotel has two restaurant units (big and small hall) and a coffee bar. Hotel has a conference room and adequate parking space. The average price for overnight is 18 euros. In order to raise quality services it is necessary to investments and adaptation, as well as training of employees according to the increasingly demanding needs of modern tourism demand and the very age of the facilities, as well as the development of the IT sector.

Motel “Mandić” was built in 1994. Motel completes the accommodation facilities of the Vrbas municipality. Motel offers 34 accommodation units, a restaurant room and parking space. Motel is categorized with three stars.

“City Restaurant” is located in the city center, the restaurant also has a 13 beds and open parking space as well as a cage for pets.

Restaurants in the Vrbas municipality is presented in Table 3.

Table 3. Restaurant facilities

Restaurant facilities	Number
The classic restaurants	11
Dairy restaurants	2
Buffets and Bars	65
Pastry shops	4
Total	82

Source: Municipal administration Vrbas, November 2013.

It can be concluded that the restaurant’s facilities in quantity meet the needs of tourist demand and can complement the stay of tourists in the municipality, but hospitality units must constantly work on improving the quality of services to ensure competitiveness in the tourism market.

2. The resource base for development of hunting tourism

Hunting tourism representing most promising and most developed tourist product of the Municipality Vrbas. Because of the well-known events which were happened during the nineties and the economic crisis after 2007, investment in development of hunting is insufficient, and foreign tourists from Italy, Austria, Germany, France, Spain, etc, who had earlier visited the Municipality are practically reduced to a minimum.

Hunting tourism nowadays mostly done through guest appearances from other hunting associations from the country and from the Montenegro.

In the municipality exists a hunting association “Vrbas” with 500 members.

The structure of hunting associations with hunting area by local communities in the municipality is given in Table 4.

Table 4. Structure of the hunting associations in the municipality with an area of hunting grounds

No.	Name of the hunting association and location	Number of members	Hunting area in ha
1.	H.A. „Fazan“ Vrbas	212	9 000
2.	H.A. „Soko“ Kucura	48	5 000
3.	H.A. „Fazan“ Savino Selo	70	6 000
4.	H.A. „Zec“ Ravno Selo	45	5 000
5.	H.A. „Jelen“ Zmajevu	75	6 000
6.	H.A. „Jarebica“ Bačko Dobro Polje	50	6 000
Total		500	37 000

Source: Municipal Administration Vrbas, October 2013

The hunting ground is mainly used for hunting small feathered game and roe deer. Dates of hunting season on game species are given in Table 5.

Table 5. Type of hunting game and hunting season in the municipality of Vrbas

No.	Sorts of hunting game	Hunting season
1.	Roebuck	April 15 th to September 30 th
2.	Roe	September 30 th - January 31 st
3.	Rabbit	October 15 th to December 31 st
4.	Pheasant	October 1 st to January 15 th
5.	Quail	August 1 st - September 30 th
6.	Wild duck	August 15 th - January 3 rd
7.	Wild goose	October to January

Source: Municipal Administration Vrbas, October 2013

Hunting infrastructure in the municipality is relatively well developed, it consists of:

- 26 feeding places for large game (in every hunting ground at least 4);
- 18 located in the waiting Zmajevu, Kucura, B. D. Polje, Vrbas;
- 13 waterholes located in Vrbas, Kucura, Zmajevu;
- Through three hunting units watercourse DTD, the Grand Canal and detailed channel network by Atari all settlements
- In all the settlements and hunting clubs there is a hunting lodge.

It was developed and cooperation with all the hunting associations for which bordering three hunting grounds and which H.A. “Vrbas” is managed.

Cooperation with other associations organized individually and / or through hunting Alliance of Vojvodina. They are organized regular guest appearances include:

- H.A. „Fazan“ Savino Selo is bosom friend with H.A. „Srem“
- H.A. „Fazan“ Vrbas is bosom friend with H.A. „Nikšić“, Montenegro.
- H.A. „Jelen“ Zmajevu is bosom friend with H.A. „Kladovo“.
- H.A. „Zec“ Ravno Selo is bosom friend with H.A. „Zeta“, Montenegro.

Tourists from abroad (Italy, Austria, Spain) come primarily interested in hunting on a deer, while Italian tourists are showing particular interest in hunting quail

Domestic tourists usually love hunting pheasant and rabbit small game, and since there is a large interest in hunting roe buck or doe.

Hunting Association regulated price lists for shooting venison, which are in accordance with the price list which prescribes Hunting Association of Serbia, and every hunting association is independent in making decisions about price lists for a specific type of game. The venison can be hunted with previously issued permit and allows the removal from the hunting grounds with the appropriate shipping document and other supporting documentations (veterinary confirmation of the correctness of meat, etc.). Professional service has the gamekeeper employed full-time and volunteer guards.

Development of a hunting tourism is closely linked with the development of event tourism. On the territory of the municipality organized following hunting events:

- “Hunting pot” in Kucura is held in September;
- “Saint Eustatius” the Saint’s patrons day of hunters’ associations, which is celebrated on October 03rd.
- “Kinology cups” are organized by calendar for any year;
- Competition “Hunter and Dog” are organized by calendar every year.

By combining hunting, fishing and event tourism effects are significantly increases, while the municipality on the tourist market positioning as a destination for significant segment of hunting tourism.

3. Development of alternative forms of hunting tourism

As one of the alternative forms of development of hunting tourism in recent years practice suggested development of photo-safari. This type of tourism is in trend in Western Europe, North America and Japan. The concept of photo-safari is in accordance with the principles of “sustainable development”, preserving the environment, and so on.

Most tourists who are interested in this kind of active holiday have minimal requirements in relation to residence in the hunting grounds. The intention is on so-called. “Untouched natural environment” (flora and fauna).

A complementary development “photo safari” with hunting tourism will animate large market segment, i.e., it will be done the great dispersion of the tourism product and motivate additional tourist demand. This would increase the number of tourist visits, i.e. the Vrbas will become more tourist attractive.

4. The vision and marketing approach to the development of hunting tourism in the municipality of Vrbas

Vrbas to the domestic and international tourist market represented small tourist destination which tourist offer could animate specific market segments interested for tourism of specific interest with exactly specified types of tourist products.

“The decisive place in the market approach and the short and long term should have a domestic market. Such a attitude is based on the proximity of large urban centers of Belgrade and Novi Sad, which are also the largest cities in Serbia and potentially a major tourist emissive centers “.⁵

Hunting tourism plays an important role, primarily because of the long tradition and clearly present resources, and infrastructure built hunting. In order to successfully evaluate, all tourism resources (natural and social - anthropogenic) tourism should develop complementary to other economic sectors and non-economic. Taking into account the synergistic nature of tourism and its multiplied positive impact on the economic and non-economic trends, it is expected that the development of tourism has contributed to the overall “betterment” of the Municipality for a longer period of time. An important role in this process plays and Tourist organization of Vrbas that its promotional appearances should alert the demand. Certain assets promotional mix is already used today, and is planned to be the future development of tourism in the municipality put a special emphasis.

A significant contribution to the development of hunting tourism play traditional events that attract large numbers of tourists. This is also an opportunity for the beside hunting and event tourism is developing. “Food tourism” in recent years has caught the attention of a large number of tourists in Western Europe and Canada. Also, this is opportunity and trade development, because a large number of tourists is interested in purchasing the traditional local products.

In this way, hunting tourism may become the initial “trigger” for the development of a great variety of tourism products, or the development of special interest tourism.

An important role in all beside to the public will play and private sector of the economy, which with its investments can significantly accelerate the development of tourism.

⁵ Predrag Vuković, Svetlana Roljević, Biljana Grujić (2013): „Options for development tourism based on natural and social resources in the area of "Upper Danube Basin“, journal: *Економика, Ниш, Год. LIX, VII-IX 2013, № 3*, p. 155-160.

What is the issue is unresolved legal status of these associations, because they work in the public sector and as such provide far less effect than those that could be expected if there were hunting grounds and private property. In addition to the tax which would be paid, these hunting grounds would be more motivated to promote tourism, not only hunting, but also all other types.

What is positive is that it has formed Tourist Organization Vrbas, which will in the future coordinate tourism activities at the municipal level as a destination, which will create conditions for further development of tourism.

Regard to the intentions which is present in the tourism market is that much attention is paid to ethno features, and suggestion is that hunting lodges would be more provide it in its architecture and interior, in order to increase their attractiveness to tourists.

Conclusion

Municipality Vrbas have been one of the important hunting tourist destinations of AP Vojvodina for many years. Evidently present well-developed hunting tourism infrastructure requires certain investments to be able to serve its purpose. The plan as of the municipality, and the Tourist Organization of Vrbas is that hunting tourism will take a special attention in the future. To this end, the focus of future activities will be to animate those market segments that were in previous years brought significant revenue. In the first stage, the focus is on the domestic market and later by appropriate means of promotional mix to go to the animation of the old traditional markets of Italy, Austria, Germany, France, etc.

What gives special significance is the great enthusiasm that shows a large number of members of hunting associations, as well as their mobility in all hunting activities with which to improve infrastructure to hunting, and hunting tourism

One of suggestion is that with regard to the five hunting associations which exist at the territory of Vrbas it is important to build hunting lodges in ethnic style, which would have appropriate offer of hospitality (hotel and restaurant). This would be significantly increased the attractiveness Vrbas as a tourist destination. In this respect, an important role will be played co-operation with the private sector of the economy. It is important to emphasize that we should improve the quality of the accommodation offer which is currently at a very low level. It can quantitatively respond to increased demand but the question is what kind of quality hospitality services currently provided.

Also, it should work on complementary development of hunting with other forms of tourism, especially the events (manifestation), and then food tourism. On this way, tourism through its synergistic character outright multiplied positive impact on the whole economic life of the municipality. First of all, in order to develop trade and agriculture (having in mind obligations that hunting societies have towards hunting grounds) and traffic. The quality of road transport infrastructure is satisfactory. However, what is missing is a tourist signalization. When it comes to hunting tourism signs for the hunting grounds with objects hunting tourism infrastructure is necessary to establish if in a future relies on development of this type of tourism.

References

- Републички завод за статистику, публикација „Општине у Србији“ за године 2006, 2007, 2008, 2009, 2010, 2011, 2012 год.
- Подаци добијени од општинске управе Врбаса.
- Предраг Вуковић, Светлана Ролејвић, Биљана Грујић (2013): „*Мозгућности за развој туризма заснованог на природним и друштвеним ресурсима у подручју «Горњег Подунавља»*“, часопис: Економика, Ниш, Друштво економиста „Економика“ – Ниш, стр. 155-160, YU ISSN 0350-137X, UDK: 338(497,1) GOD LIX, VII-IX 2013, Vol. 3.
- Предраг Вуковић, Наташа Цецић, Славица Арсић: “*Улога туризма у развоју руралних подручја*”. Симпозијум агроекономиста са међународним учешћем поводом 45. година Одсека за агрономију: “Агроекономска наука и струка у транзицији образовања и агропривреде”. Тематски зборник, Универзитет у Београду, Пољопривредни факултет, Београд, 24-25. октобар, 2008. стр. 309-314. ISBN 978-86-7834-059-8
- Предраг Вуковић, Светлана Рољевић, Радојица Сарић (2009): „*Стратешка опредељења за мултифункционални концепт пољопривреде и очување животне средине*“. Пољопривредна техника. Година XXXIV, број 4, XIII научно - стручни скуп са међународним учешћем «АКТУЕЛНИ ПРОБЛЕМИ МЕХАНИЗАЦИЈЕ ПОЉОПРИВРЕДЕ 2009» ДПТ - 2009.« - Тематски зборник, Пољопривредни факултет у Београду, 11 децембар 2009. YU ISSN 0554 5587. UDK 631 (059). UDK rad 628.4. стр. 45-52.
- Предраг Вуковић, Славица Арсић, Драго Цвијановић (2010): „*Конкурентност руралних туристичких дестинација*” стр. 47-60, часопис Економика пољопривреде/Економика оф Агрикултуре 57, јануар-март, Београд, Год./вол. LVII, бр./N0 1(1-153), 2010, Beograd UDC:338.43:63, YU ISSN 0352 – 3462
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SCIENTIFIC REVIEW ARTICLE
Received: October 28, 2014
Accepted: November 30, 2014

THE READINESS OF THE SELECTED EUROPEAN COUNTRIES FOR THE DEVELOPMENT OF KNOWLEDGE ECONOMY

Abstract

The country's readiness for the development of knowledge economy was measured using the Knowledge Economy Index (KEI) and the Knowledge Index (KI) of The World Bank Institute's Knowledge for Development Program, 2012. The assessment of the position of the observed countries for the development of knowledge economy is based on the use of a number of analytical procedures. Cluster analysis was used first in order to check for the level of differences according to the KEI parameters and to group the selected countries into clusters, aimed at detecting the deviation of the observed European countries from the remainder of the group. Then we used the radar cart analysis of the four KEI pillars and their key variables in order to identify the current situation with respect to the values of partial indicators of the KEI pillars and establish the relative positions of the selected countries. Finally, over time comparison of the current values of the KEI pillars with the 2000 data was used to illustrate the dynamics of the development of the KEI pillars in crisis conditions. Research results have indicated that there is a prominent lag in the readiness of the Western Balkan countries (Albania, Bosnia and Herzegovina, Macedonia and Serbia) behind their EU environment (Austria, Greece, Bulgaria, Romania, Croatia and Slovenia).

Key words: knowledge economy, Knowledge Economy Index, Knowledge Index.

JEL Classification: I250

СПРЕМНОСТ СЕЛЕКТВАНИХ ЗЕМАЉА ЕВРОПЕ ЗА РАЗВОЈ ЕКОНОМИЈЕ БАЗИРАНЕ НА ЗНАЊУ

Апстракт

Мерење спремности земаља за развој економије базиране на знању у раду је реализовано на основу Knowledge Economy Index (KEI) и Knowledge Index (KI) развијеног у оквиру програма Института Светске банке под називом Знање за развој (The World Bank Institute's Knowledge for Development Program),

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2012. Оцена позиције посматраних земаља за развој економије базиране на знању дата је коришћењем већег броја аналитичких поступака. Најпре је помоћу кластер анализе проверен степен различитости према параметрима KEI и извршено је груписање посматраних земаља по кластерима са основним циљем да се детектује одступање посматраних земаља Европе од остатак групе. Потом, путем радар царт анализе четири стуба KEI и њихових кључних варијабли идентификована је тренутна ситуација у погледу вредности парцијалних показатеља KEI стуба и сагледаване су релативне позиције посматраних земаља. Коначно, овер тиме компарацијом актуелних вредности KEI стубова у односу на податке из 2000. године илустрована је динамика развоја KEI стубова у условима кризе. Резултати истраживања су указали на изражено заостајање спремности земаља Западног Балкана (Албанија, Босна и Херцеговина, Македонија и Србија) за својим ЕУ окружењем (Аустрија, Грчка, Бугарска, Румунија, Хрватска и Словенија).

Кључне речи: економија знања, индекс економије знања, индекс знања

Introduction

On the theoretical level, in the developed countries, the paradigm of “knowledge economy” is becoming more and more dominant in social sciences. The leading researchers consider it to be the starting point for the interpretation of changes. It is based on three general tenets: complexity, chaos and synergy (Komnenić, 2009). The principle of complexity refers to a large number of non-linearly organised components, disorder, openness and a holistic approach to the system (not only does it consist of a large number of components, but it also resembles an organism); the tenet of chaos points to the need for being creative in solving and studying new relations, while synergy stands for the fact that joining together brings about the effects that are larger than the sum of effects being joined. This paradigm indicates that the new business environment is not constructed from the bottom up, by applying a general model to all cases. Instead, it is constructed based on a number of feedback relations on all levels and in all directions, not relying on the established regularities, but creating them parallel with the development itself (Chesbrough et al. 2006). Simultaneously with the occurrence of the new paradigm and the changes it brought about in the context of the change in the appearance, structure and the functioning of the business environment, there came a realisation that the traditional business models of the industrial age were no longer capable of coping with the dynamic conditions on the global market that constantly transforms its structure under the pressure of changes that become more and more radical (Greenhalgh and Rogers, 2012).

Powell and Snellman defined the knowledge economy as the production of goods and services dominantly based on knowledge-intensive activities that contribute to generating technical advance by causing the key changes in the economy and the society as a whole (Powell & Snellman, 2004). These researchers state that the key component of knowledge economy is a greater reliance of economy on intellectual capabilities than on physical input and natural resources (Hollenbeck et. al. 1997).

In order to efficiently advance towards the knowledge economy, the countries need to invest into creation and dissemination of the new knowledge (Saisana, 2005; Fischer, 2001). The significance of knowledge for the economic processes has changed fundamentally over the past years (Nijkamp & Siedschlag, 2011). The increase in

productivity, caused by technological and organisational innovations, has become a key source of country's economic progress. Bearing in mind the ecological concerns, it is becoming more obvious that natural resources are limited and this reflects on generating the economic growth (Cvetanović et. al. 2014). The factor used to overcome these limits is the generation and dissemination of knowledge (Huggins & Izushi, 2007). The activities related to the creation and use of knowledge have become a key initiator of economic growth in the developed market economies (Wickham, 2001).

For the countries of the Western Balkans, the readiness for the development of knowledge economy is an important aspect of the completion of the transition process and the dynamics of fulfilling numerous conditions on their path towards the European Union (Nedić and Ilić, 2013).

Research methodology

In order to facilitate the development of the knowledge-based society for different countries, the World Bank has compiled the Knowledge Assessment Methodology (KAM, 2014), aimed at enabling the basic assessment of the country's readiness for the development of knowledge (Ilić and Nedić 2014).

In order to facilitate the development of the knowledge-based society for different countries, the World Bank has compiled the Knowledge Assessment Methodology (KAM), aimed at enabling the basic assessment of the country's readiness for the development of knowledge economy and identifying the fields in which economic policy creators should invest more. This is an interactive tool that makes it possible to compare the countries according to the level of development of knowledge economy. The knowledge is measured based on 148 structural and qualitative variables for 146 countries, with more than 90 developing countries included. In order to enable a flexible comparison between countries each variable is available in its absolute and relative value (a normalised scale of 0 to 10, relative to other countries in the comparison group). The comparison can be performed between individual countries (all 146 of them), relative to other countries in one of the seven regions (Northern America, East Asia and the Pacific, Southern Asia, Europe and Central Asia, Latin America and the Caribbean, the Middle East and the Sub-Saharan Africa) or relative to the region as a whole. Additionally, comparisons can be made according to the country's readiness for the development of knowledge economy depending on the value of the gross domestic product per capita, depending on the development of certain areas et al.

The measurement and comparison of countries based on this methodology is suitable for providing the preliminary assessment of the development of knowledge economy. The KAM methodology provides a quick and concise overview of the most important advantages and weaknesses, as well as the fields where there is an advance in the development of knowledge economy (Chen and Dahlman, 2005). Knowledge indicators are also used for calculating the overall knowledge index and the knowledge economy index.

The Knowledge Economy Index (KEI) measures a country's or region's ability to develop knowledge economy, i.e. whether the environment is conducive for knowledge to be used effectively for economic development. The KEI is an aggregate index that represents the overall level of development of a country or a region towards the Knowledge Economy. It is calculated based on the average of the normalised performance scores of a country or a region on all 4 pillars related to the knowledge economy – economic incentive and institutional regime, education and human resources, the innovation system and the ICT.

The Knowledge Index (KI) is an indicator of the overall potential of knowledge development in a given country and measures a country's ability to generate, adopt and diffuse knowledge. It is calculated as the simple average of the normalized performance scores of a country or a region on the key variables in three Knowledge Economy pillars – education and human resources, the innovation system and the ICT. Unlike the Knowledge Economy Index, which is calculated based on all four pillars of the knowledge economy, The Knowledge Index includes three pillars (the first pillar, economic incentive and institutional regime, is left out).

The economic and institutional regime enables the incentives for the efficient use of the existing and new knowledge and leads towards entrepreneurship affirmation. An educated and adequately trained population can generate, disseminate and use knowledge. An efficient innovation system of companies, research facilities, universities, consultancies and other organisations can fit into the increasing trends of global knowledge, assimilate and adapt to the local needs and create new technology. Modern and accessible ICT structure can enhance communication, diffusion and processing of information.

The subject of this paper is to obtain insight into the readiness for the development of knowledge economy of the four countries of the Western Balkan region (Albania, Bosnia and Herzegovina, Macedonia and Serbia) and the six EU countries from their nearest environment (Austria, Greece, Bulgaria, Romania, Croatia and Slovenia). The starting point was the hypothesis that possible great lag of the Western Balkan countries behind the selected EU countries in the level of the achieved readiness for the development of knowledge economy limits the pace of the accession of these countries to the European Union.

The assessment of the situation in the observed countries in the field of development of knowledge economy will be provided by:

a) Cluster analysis used to:

- test for the degree of differences according to the KEI parameters,
- group the observed countries into clusters, and
- detect the observed countries with a high deviation from the remainder of their group.

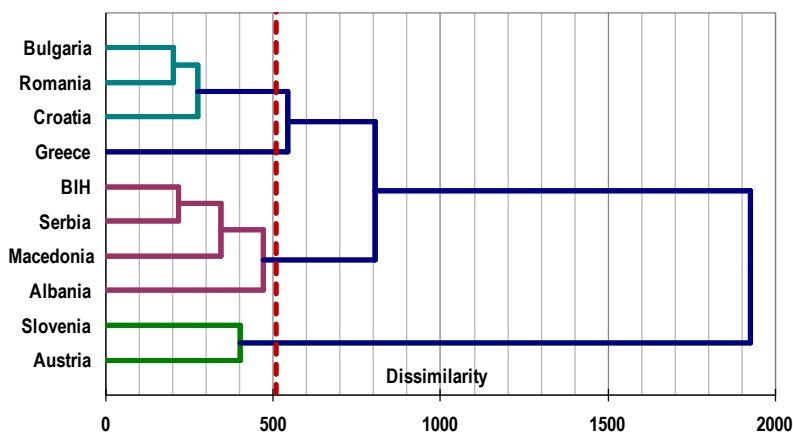
b) Radar cart analysis of the four KEI pillars and their key variables in order to identify the current situation with respect to the values of the partial KEI pillar indicators and to enable the observation of a relative position of the observed economies,

c) Over time comparison of the most recent available values of the KEI pillars compared to the data from 2000, in order to point to the dynamics of the development of the KEI pillars of knowledge economy in the conditions of crisis.

Results and discussion

The clustering of the observed ten countries on all variables that comprise the KEI is provided in Figure 1.

Figure 1 A dendrogram of the conducted cluster analysis according to differences – the calculation included all variables of the KAM framework (normalized values min=1; max=10) for all the selected countries



Source: Authors' calculation based on http://info.worldbank.org/etools/kam2/KAM_page1.asp.

In the process of grouping (clustering) of the 10 selected countries, a bottom-up method of agglomerative hierarchical clustering was used. In the initial step, each country was treated as a separate cluster. Their paring on the basis of mutual similarity in terms of the value of the observed variables is a result of all subsequent iterations of grouping until the observed entities were all grouped into one cluster. If the level of difference between 500 and 600 is taken as the possible cutting point of the dendrogram, three clusters of observed countries are clearly identified. The first cluster includes the four members of the observed group that are EU members (Greece, Croatia, Bulgaria and Romania), the second cluster is formed of the four members of the group outside the EU (Albania, Bosnia and Herzegovina, Macedonia and Serbia), while the third cluster comprises only two members of the observed group –Slovenia and Austria.

It is only at the level of difference of 2000 that Slovenia and Austria join the second and third cluster. It is obvious that there is a link between the clustering and the EU membership of the observed countries. The difference is especially prominent in the case of Austria and Slovenia, even with respect to other four EU members from the observed group.

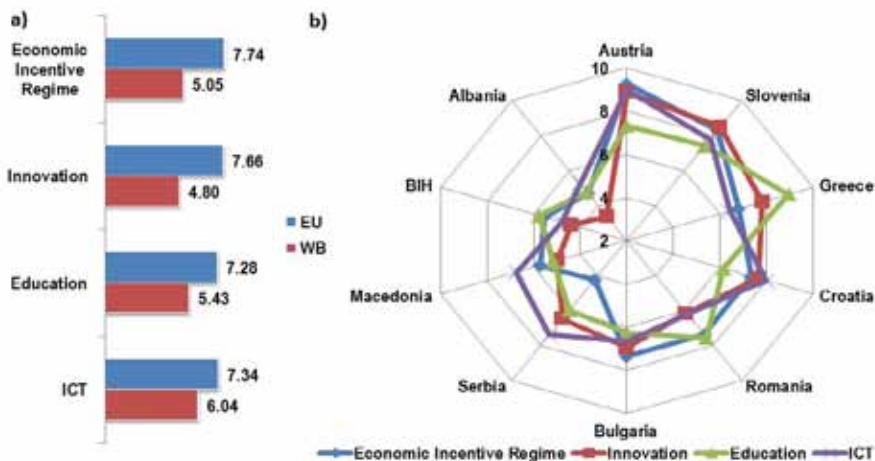
On the other hand, there are significant differences between the countries inside one cluster. They do not decrease until the initial level of clustering (each country from the observed group forms a cluster on its own).

It is our opinion that cluster analysis additionally confirms the purposefulness of the selected countries, since the formed clusters largely overlap with the groups of countries that we compare. The members of the overall observed population do not show extreme deviations.

Considering the differences found among countries, it is necessary to look into the fields and the countries in which the differences are most prominent. In order to identify the influence of individual fields (the so-called pillars of knowledge economy) underlying the development of knowledge economy, the analysis will continue in such a way as to decompose the aggregate KEI into pillars as well as into key variables of these pillars that serve as more detailed partial indicators.

In the following section, we will present a comparative overview of the KEI pillars for the most recent available data in the form of: a) bar charts for the average values according to the observed groups of countries, whereby the observed variables according to the selected groups of countries were determined as an average of the results achieved in the KEI domain by the countries belonging to the observed groups, and b) radar charts for all the observed countries individually (Figure 2).

Figure 2 The KEI main pillar score (normalized values min=0; max=10) of the selected countries



Source: Authors' calculation based on http://info.worldbank.org/etools/kam2/KAM_page1.asp.

Based on the above Figure, the following can be concluded:

a) The Western Balkan countries lag behind on all four KEI pillars, and this lag is most prominent on the Economic Incentive Regime and Innovation, while it is least prominent on the ICT pillar.

b) Based on the presentation of values on the level of individually observed countries it can be concluded that:

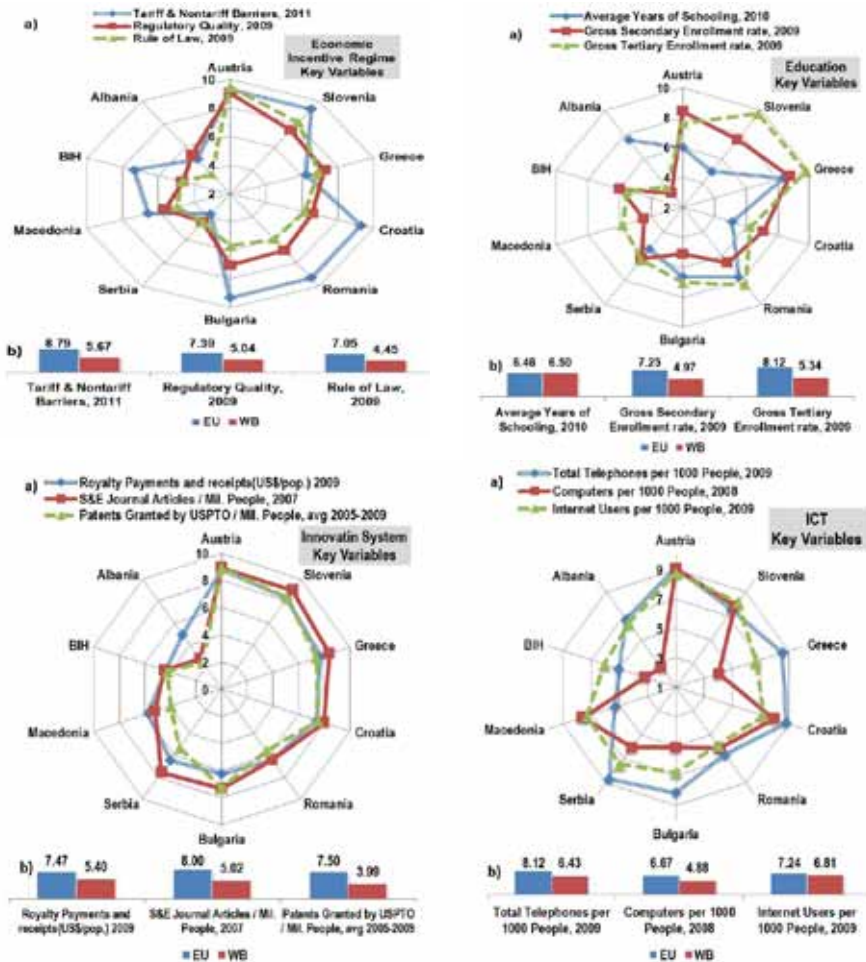
- All countries from the group are fairly unequal in terms of values of the KEI pillars, except for Slovenia and partially Bulgaria,
- The above-mentioned inequality is most prominent in the case of Serbia; the good position of the ICT pillar value is in discrepancy with by far the worst economic and institutional framework compared to all other observed countries,

- Austria holds the leadership position in the group according to all pillars, except education, where Greece is the leader.

A general impression is that Bosnia and Herzegovina and Albania lag behind most prominently while Austria (with the exception of education) and Slovenia hold the most equal and highest positions.

Figure 3 provides a comparative overview of the key variables of the KEI pillars a) on the level of individually observed countries and b) average values according to the formed groups of countries.

Figure 3 A comparative overview of the key pillar variables (normalized values min=0; max=10) for the selected countries



Source: Authors' calculation based on http://info.worldbank.org/etools/kam2/KAM_page1.asp.

The following conclusions can be made based on Figure 3:
In the domain of institutional and economic regime:

a) Individual overviews show that:

- Within the EU, Greece has the lowest value of the variable *Tariff & Nontariff Barriers*, even lower than both Macedonia and Bosnia and Herzegovina that belong to the Western Balkan countries.
- Serbia has the worst performance in terms of the average values of variables, while as far as the variable *Tariff & Nontariff Barriers* is concerned, it is at the bottom of all observed countries.
- Albania has the worst position of all observed countries on the variable *Rule of Law*.

b) The Western Balkan countries achieve significantly lower results on all observed key variables compared to the six EU countries from their closest environment. The greatest lag is present on the variable *Tariff & Nontariff Barriers*.

In the field of education it can be observed that:

- In the individual overview, observed on the average according to all three key variables of the pillar *Education*, Albania is at the bottom, and Greece at the top of all the observed countries.
- The EU countries show significant advantage on the variable *Gross Tertiary Enrollment rate*, followed by the *Gross Secondary Enrollment rate*, while both groups of countries are equal on the average when it comes to the variable *Average Years of Schooling*.

In the field of the innovation system,

a) Observed individually:

- On all three variables, Serbia has the highest scores in the group of Western Balkan countries, and even the same rank as the EU countries regarding the score on the *S&E Journal Articles / Mil. People* variable. This gives us the right to assume that there is respectable innovative potential in Serbia, which, unfortunately, does not yield adequate results.
- According to the average on all three key variables on this pillar, Albania is at the bottom of the list.

b) The EU countries have the advantage on all three key variables compared to the Western Balkan countries. By far the most prominent lag is on the variable reflecting the number of patents.

In the field of the ICT:

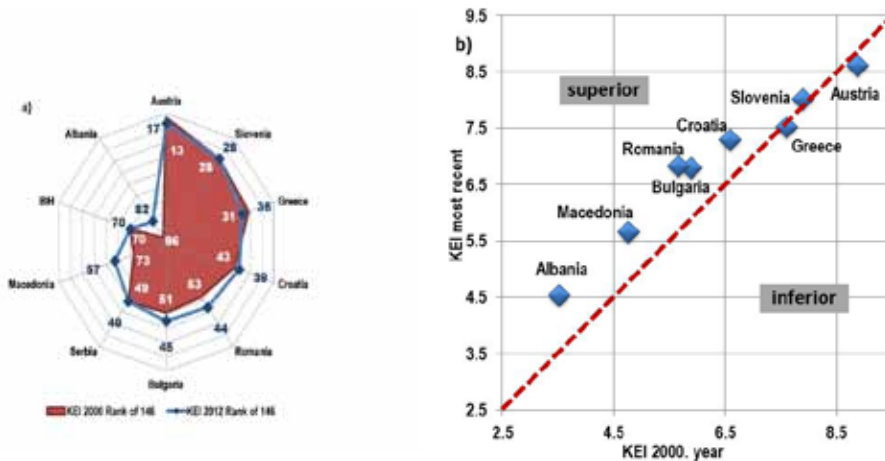
a) A detailed overview by countries shows that:

- On all three variables, Austria, Slovenia and Croatia hold a leadership position, and show a convergence of all three variables (convergence is also detected in the case of Romania, but at a significantly lower level from the leaders).
- There are large deviations among countries on the variable *Computers per 1,000 people* (but this finding is also imprecise since data originate from 2008, which is fairly outdated for such a changeable variable). On the other hand, the greatest stability in the group of ten observed countries is shown by the variable *Internet users per 1,000 people*, which is discrepant with the previous parameter and speaks more about the inadequacy of metrics for the ICT pillar.
- The third key variable *Telephones per 1,000 people* also varies from country to country, and Serbia holds the top position out of ten observed countries according to this parameter, slightly below Croatia.

b) The ICT pillar on the average shows a considerable advantage in favour of the EU countries, except for the variable *Internet Users*, where this difference is somewhat less prominent.

The remainder of the paper provides an overview of ranks and values of the KEI and its pillars that compares the situation from the year 2000 and the most recent available situation and includes all the observed countries.

Figure 4 Over time comparison of ranks and values for the selected countries on the Knowledge Economy Index (2000 vs. 2012)



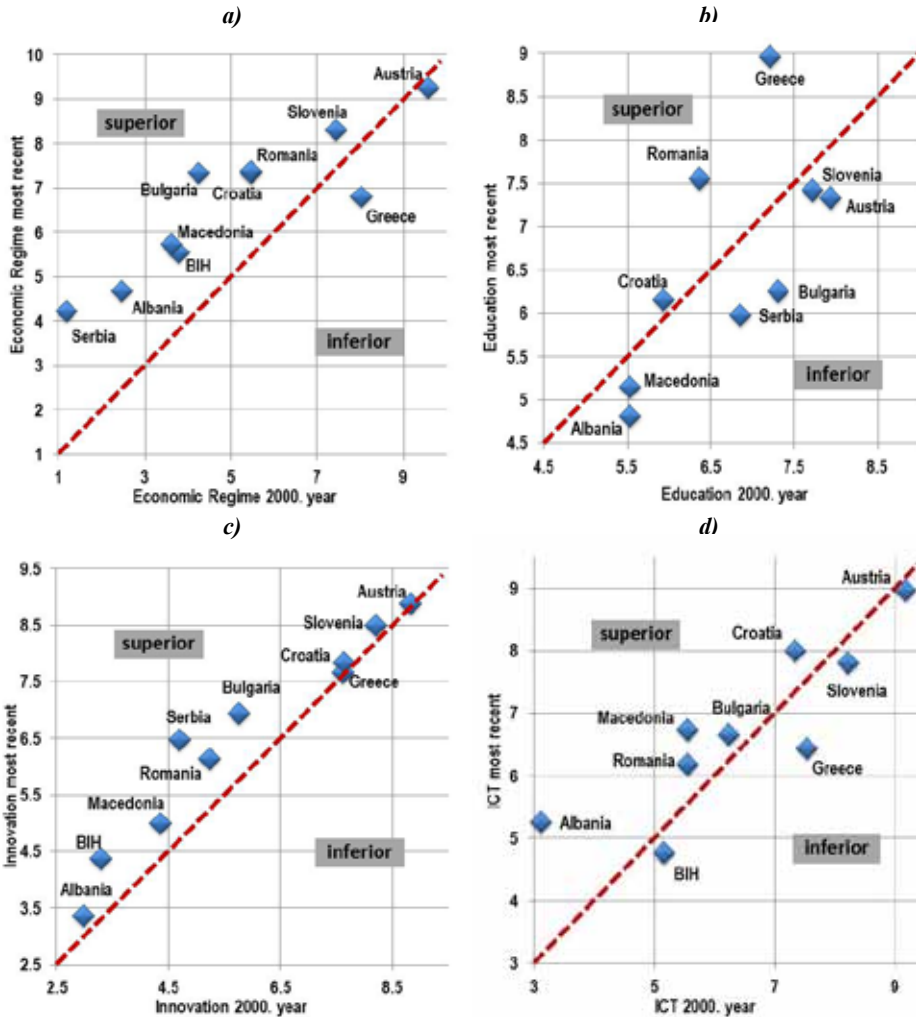
Source: Authors' calculation based on http://info.worldbank.org/etools/kam2/KAM_page1.asp.

Note: The data for the KEI value in 2000 for Serbia and Bosnia and Herzegovina are incomplete (the ICT score is missing for Serbia, and Education for Bosnia and Herzegovina)

Figure 4a shows the trend of change in the KEI rank (a relative change) on the global level for the selected countries in the period from 2000 to 2012. The EU member countries hold generally better rank positions, which can be expected. There is a noticeable positive trend for the majority of countries (the biggest positive advance in the case of Macedonia), while Greece and Austria are the only countries with the negative rank trend (which is expected in the case of Greece due to an exhausting economic crisis). On the other hand, in the case of Slovenia, Serbia and Bosnia and Herzegovina there is no recorded change in the global KEI rank for the observed period.

Over time comparison of the KEI values (Figure 4b) provides an overview of absolute changes in the observed period. There is a clearly visible stagnation of the leading three countries (Austria, Slovenia and Greece), while all the other members of the observed population show a trend of progress. For Serbia and Bosnia and Herzegovina that are at the bottom of the group there are no available data on the rank in 2000 (which is a partial reason for their grouping into a separate subcluster).

Figure 5. Over time comparison of the current values of the KEI pillars:2000 vs.the most recent available



Source: Authors' calculation based on http://info.worldbank.org/etools/kam2/KAM_page1.asp.

Based on over time comparison of the four KEI pillars(Figure 5) it can be concluded that on the pillar of:

a) *Economic Regime* all countries except Greece show considerable progress,

b) *Education* the majority of the countries show regression, with the exception of Greece and Romania that have shown a considerable progress, and Croatia, which shows a slight positive change.

c) *Innovation* all countries show progress.

d) *ICT* Slovenia, Greece and Bosnia and Herzegovina show negative changes, while Austria, as a highly positioned country, holds a fairly same position.

Conclusion

The observation of the KEI elements for four Western Balkan countries (Albania, Bosnia and Herzegovina, Macedonia and Serbia) and six EU countries from their closest environment (Austria, Bulgaria, Greece, Croatia, Romania and Slovenia) has pointed to a significant lag of the selected Balkan countries behind the selected EU members. It is especially concerning that the most prominent lag, besides the field of Innovation, is present in the field of *Economic Incentive Regime*, which is a fundamental precondition for the development of knowledge economy, and hence a possible advance on other KEI elements is relativized.

What is encouraging is that we have detected a trend of improvement in the values of the KEI pillars (besides the Education pillar, whose trend is negative for the majority of observed countries) of the Western Balkan countries based on over time analysis. This positive trend is especially prominent in those pillars where there is the greatest lag behind the EU group. On the other hand, in the most developed countries of the observed group of the EU members (Austria and Slovenia) there are no significant changes in the values (the over time chart) and there is a particular convergence of the achieved values, expect in the field of education (the radar chart of the KEI pillars).

The countries of the Western Balkans need a strategy of comprehensive reforms of the business and institutional environment, which is a necessary prerequisite for the investments in other fields to yield adequate and expected effects.

References

- Chen, D. H., & Dahlman, C. J. (2005). The knowledge economy, the KAM methodology and World Bank operations. World Bank Institute Working Paper, (37256).
- Chesbrough, H., Vanhaverbeke, W., & West, J. (Eds.). (2006). Open innovation: Researching a new paradigm. Oxford university press.
- Cvetanović, S. Despotović, D. Živković, Lj. Nedić, V. (2014) Environmental dimension of sustainable competitiveness of serbia and selected european countries. Bulgarian journal of agricultural science Vol. 20, no. 4, str. 767-778.
- Fischer, M. M. (2001). Innovation, knowledge creation and systems of innovation. The Annals of Regional Science, 35(2), 199-216.
- Greenhalgh, Ch. Rogers, M. (2012) Innovation, intellectual property, and economic growth, Princeton University Press: Princeton and Oxford
- Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (1997). Human resource management: Gaining a competitive advantage. Chicago: Irwin.
- Huggins R. Izushi H. (2007), Competing for Knowledge, Creating, connecting, and growing, Routledge, New York.
- Ilić, V. Nedić, V. (2014). Merenje spremnosti zemalja za razvoj ekonomije bazirane na znanju / Assessing countries' readiness for developing knowledge-based economy. Ekonomika, 60/3, pp. 247-254.
- KAM (Knowledge Assessment Methodology) 2012. (2014). Washington, DC 20433: World Bank.
- Komnenić, B, 2009. Pravci istraživanja kreativnih industrija u ekonomiji znanja, Kreativni kapital Srbije, knjiga I: Kreativne industrije i ekonomija znanja, ACADEMICA, Beograd.

- Nedić, V., Ilić V., (2013). Spremnost za umrežavanje zemalja Zapadnog Balkana. *Ekonomika*, 59/3, st.1-9.
- Nijkamp, P. Siedschlag, I. (2011), *Innovation, Growth and Competitiveness, Dynamic Regions in the Knowledge-Based World Economy*, Springer Heidelberg Dordrecht , London , New York.
- Powell, W. Snellman, K. (2004). *Economy Knowledge*, *Annu. Rev. Sociol.*, 30:pp. 199–220.
- Saisana, M. Saltelli, A, Tarantola, A. (2005) Uncertainty and sensitivity analysis techniques as tools for the quality assessment of composite indicators, *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 168(2) pp. 307-323.
- Wickham A. P. (2001). *Strategic Entrepreneurship – A Decision-Making Approach to New Venture Creation and Management*. London: Pearson Education Limited.

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SCIENTIFIC REVIEW ARTICLE
Received: October 27, 2014
Accepted: November 24, 2014

ANALYSIS OF CALLA LILY AND CUCUMBER PRODUCTION IN GREENHOUSE⁴

Abstract

In the last few decades, vegetable production in greenhouses has been more and more presented within the national agriculture. On small agricultural holdings, in aforementioned form of protected production area, dominate the tomato, cucumber and pepper growing. However, in recent years, beside vegetable crops, flowers are more and more grown (seedlings and cut flowers), where on the territory of Pančevo city, in cut flowers production calla lily becomes particularly interesting to producers.

In paper are presented some specificities in cucumber and calla lily production in greenhouse, with the main goal to easily determine (according to contribution margin analysis in the cut flowers (calla lily) and cucumber production) in which line of plant production can be expected achievement of potentially better financial results. All, for analysis, necessary data were obtained from the small family agricultural holdings located at the territory of Pančevo city (within the Metropolitan area Belgrade - Novi Sad). After analytical calculations based on the variable costs have been made, it can be concluded that producers may generally achieve better production results within the calla lily production.

Key words: *contribution margin, calla lily, cucumber, greenhouse.*

JEL Classification: Q12, Q14.

АНАЛИЗА ПРОИЗВОДЊЕ КАЛЕ И КРАСТАВЦА У ПЛАСТЕНИКУ

Апстракт

Производња повртарских култура у пластеницима је последњих неколико деценија све више присутна у националној пољопривреди. На малим пољопривредним газдинствима у поменутој форми заштићеног простора доминира узгој парадајза, краставца и паприке. Међутим, у последње време се поред повртарских култура све више узгаја и цвеће (расад и резано цвеће), где је код производње резаног цвећа произвођачима на подручју града Панчева посебно интересантна бела کالا.

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⁴ Paper is a part of the research at the project no. III 46006 - *Sustainable agriculture and rural development in the function of accomplishment of strategic goals of the Republic of Serbia within the Danube region*, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia, for the project period 2011-2014.

У раду су представљене специфичности производње краставца и беле кале у пластенику, са циљем да се на основу анализе марже покрића (брuto финансијског резултата) у производњи резаног цвета (беле кале) и краставца непосредно утврди у којој се линији биљне производње остварују бољи финансијски резултати. Сви неопходни подаци за анализу су црпљени са породичних пољопривредних газдинстава лоцираних на територији града Панчева (унутар метрополитен подручја Београд - Нови Сад). По изради аналитичких калкулација на бази варијабилних трошкова, утврђено је да произвођачи генерално могу остварити боље производне резултате у производњи беле кале.

Кључне речи: маржа покрића, бела кала, краставац, пластеник.

Introduction

Production in greenhouses, on the territory of the Republic of Serbia is mostly organized on small agricultural holdings. Mentioned method of agricultural production requires somewhat higher level of intensity, but in most cases it brings much higher incomes per unit of production surface. Also, this type of production represents, due to its usual organization on smaller land complexes (although it requires a lot of labor), suitable production alternative for small agricultural holdings.

Considered research activities were focused on the analysis of greenhouse production of selected plant species (cucumber and calla lily). Observed surfaces under greenhouses are located on the territory of Vojvodina (South Banat region), so during the analysis of results as input were used data obtained from the farms of small agricultural producers from the area of Pančevo city (zone of Central Danube region or Metropolitan area Belgrade - Novi Sad).

Mentioned zone has on disposal around 540,000 ha of agricultural land of good quality, favourable climate conditions for development of primary agriculture, large labour base, as well as vicinity of huge markets, what all represent excellent starting position for development of intensive agricultural production (Subić et al., 2013).

As was mentioned, in focus was greenhouse production of cut flower of calla lily, which from year to year takes up more and more agricultural surfaces, as well as cucumber production that has a relatively long tradition of organization in protected area facilities.

According to Subić (2010) vegetable production in greenhouses is very clean ecological process. Plant residues are bringing out the facility and grind, or remain in greenhouse, as like waste after production are not environmental pollutants. The use of fertilizers and other chemicals is relatively small, as the plants are more sensitive to a higher concentration of chemical compounds, so after the production cycle its concentration in soil is negligibly small.

Analyzed production lines are located in the greenhouses that have size of around 250 m² of useful area. It is necessary to bear in mind that the production of cut flowers is performed continuously throughout the year, while in cucumber production in one calendar year production area can be also used for another production cycle of certain vegetable (e.g. lettuce), what can contribute making of extra income on observed production area. From the aspect of income, this fact can be of special producers interest, as in following years in Serbia can be also expected increase in food prices, according to its global trend (Pejanović and Njegovan, 2009).

Methodology

For both production lines were made calculations based on variable costs, how it could be determined which of these two productions is more profitable.

According to Vasiljević and Subić (2010), due to relatively simple methodological procedure of calculation, as well as higher possibility for practical application, analytical calculations based on the variable costs are quite a lot in use in professional practice of developed market economies. This calculation was established as a response to the need of common company activities (due to sudden changes in market conditions), in order to find more efficient way for costs determination and analyzing in regard to possible, or incurred changes in production structure, volume and way of business activities operationalization. In other words, it represents more adequate analytical base that will serve to the management for more efficient costs driving and decision-making, as on family agricultural holding, as well as in agricultural enterprise.

Result of analytical calculation based on variable costs is so-called contribution margin (gross financial result), which represents the difference between the value of total production and total variable costs (Jeločnik et al., 2013). Contribution margin can be mathematically presented with the following formula: $CM = PV - VC$, where are: CM – contribution margin; PV – production value; VC - variable costs of production.

In analytical calculations based on variable costs, cost price is also calculated, where it includes only variable costs, so fixed costs are taken into account only in process of determination of financial results achieved on complete or specified part of agricultural holding (Čejvanović et al., 2010).

According to results obtained from the calculations based on variable costs, sensitivity analysis was made. Mentioned analysis allows tracking of changes in contribution margin due to change in production value, or due to change in sum of variable costs of production.

In conditions of uncertainty, the estimation of production results in plant species growing can be done by several methods and techniques. So, for assessment of production results in cut flower (calla lily) and cucumber growing in greenhouse, some additional analytical methods were considered, such as: critical price, critical yield and critical variable costs. These indicators reflect critical values at which the contribution margin equals to zero.

According to Subić and associates (2010), presenting of all contribution margin elements can provide a quick and easy overview of business at some agricultural holding in one production year, as well as the calculation of expected economic results, in case of changes in production volume, or switching from one to another production line.

Research results with discussion

Calla lily is a plant of tropical forests. It originates from central and south Africa. Production of calla lily flower requires large amounts of water, considering that this is a plant that grows in wetlands. It is reproduced vegetatively (by underground stem - tubers), while the leaves emerge directly from the root, so there is no visible tree. During the year, calla lily has been passing throughout two periods of vegetation: period of flowering and rest period (hibernation). During the phase of hibernation comes to the establishment of flower buds (it is very important for adequate formation of future flowers). This period lasts from the end of May (beginning of June) until the end of August (early September). Flowering period lasts for 8 months, but the most of the flowers are developed within the period January - March.

Since the root system of calla lily has increased demand for oxygen, planting density is usually at the level of 10 plants/m² (in case of mentioned density expected yield can be in range of 10-20 flowers per mature plant), (Đaković, 2012).

Growing conditions in the greenhouse assume the providing of relative humidity in the range of 65-75% (it is necessary for good development and growth of plant). Keeping of determined level of humidity is usually performed in combination of ventilation (air flow), shading and optimal temperature within the greenhouse, since the higher level of humidity can lead to appearance of fungal diseases (botrytis), (Steininger, 2011).

Calla lily requires certain temperature conditions. The ideal will be if the night temperature is around 16°C and daily temperature within the interval 18-20°C. This is a plant that does not require a lot of light. It is also much resistant to the winter temperatures in compare to early-spring vegetable species. It can endure, without major damages, temperature in the range of 6°C, at nights, to 15°C during the days.

Along with its growth, calla lily requires more and more quantities of water (expressed increase in applied quantities of fresh water and frequency of watering begins with the appearance of first leaves), with general recommendation to apply the largest volume of water during the morning hours (Steininger, 2011).

Calla lily responds well to the constant nutrition – fertilizing (couple of times during the vegetation period). It fits the best liquid NPK fertilizers with a formulation closest to the 4:1:3 (such as 16:4:12, or 24:8:16), or fertilizers rich with nitrogen, as it contributes to vigorous growth of plants (Steininger, 2011). Since calla lily is a perennial plant, it is advisable, prior to initiation of production process (optimal production cycle lasts 3 years) to fertilize well all production surfaces with manure.

On the other hand, use of production (land) complex for few years within the one production cycle requires previously detailed suppression of weeds parallel with the process of land cultivation. For this purpose, 2-3 times has to be applied herbicides on the basis of glyphosate, MCPA, MCPP and 2-4D Amin. As it is mentioned above, requirement for higher humidity in production facility can bring to the appearance of condensation on the foil during the nights, what can cause a fungal diseases (as a botrytis), so for this purpose is suggested plants treatment with fungicide few times during the calendar year (Đaković, 2012). Generally are used little quantities of pesticides in greenhouse production of calla lily. Usually are used the preparations for the protection against botrytis (fungicide, such as preparation Signum) and against European red mite (acaricide, such as preparation Abastate).

Individual agricultural producers of calla lily from the territory of the South Banat region most often sell the flowers on the Belgrade Flower market. Mentioned flower achieves the highest price within the period from New Year to March, while outside this period selling prices per flower are significantly lower. One of the major production limitations is recognized in uncertain realization of produced quantities on the national market. During the in-depth interviews with producers, it was claimed that certain efforts regarding the realization of calla lily export in Greece are undertaken, where additional problem occurred to producers (limited production capacities) embodied in ensuring of continuous delivery of certain volume of production on weekly basis (10,000 flowers/week). Fulfilment of required conditions set by potential buyers will initiate the realization of gross price of 1.25 EUR/flower (i.e., after deduction of all accompanying expenses: transportation, custom fees and other, the expected net price will be in range from 0.70 to 0.75 EUR/flower).

After a field research (collection of necessary data throughout the interview with the owners of selected small family agricultural holdings) analytical calculations based on the variable costs realized in the production of cut flower of calla lily in greenhouse were established (Table 1).

Table 1. Calculation of calla lily production in greenhouse (on 250 m²)

Elements	Quantity	UM	Price per UM (EUR)	Total (EUR)
Calla lily	16,000	piece	0.26	4,126.55
I Total income				4,126.55
Seedlings*	533	piece	1.00	531.53
Fertilizers	*	*	*	25.88
Pesticides	*	*	*	18.48
Binder	3.00	kg	2.15	6.45
Labour costs (seasonal)	250.00	hour	1.72	429.85
Transportation costs	*	*	*	300.89
Costs of heating	*	*	*	1,100.41
Costs of irrigation	*	*	*	128.95
II Total variable costs				2,542.45
III Contribution margin (I-II)				1,584.10

Source: According to internal documentation of IAE Belgrade, 2014.

Note: * As one seedling can be used in production during the three seasons, presented costs are the third part of total costs of seedlings.

Achieved contribution margin in the production of cut flowers (calla lily), in given conditions of production, has a value of 1,584.10 EUR/250 m². Within the structure of variable costs, the largest share has the costs of heating, which participation of 43.28%, as well as the costs of planting material (seedlings), around 20.91%.

In Table 2 is presented the sensitivity analysis in production of calla lily. Analysis is done based to the results of analytical calculation, where in same time was followed the changes of contribution margin, as due to changes in production value, as well as due to changes in the sum of achieved variable costs of production.

Table 2. Sensitivity analysis of calla lily production

PV (Production value), EUR/250m ²	VC (Variable costs), EUR/250m ²				
	1,938.37	1,951.08	2,542.45	3,133.83	3,146.54
3,146.08	1,207.71	1,195.00	603.63	12.25	-0.46
3,166.71	1,228.35	1,215.63	624.26	32.89	20.17
4,126.55	2,188.18	2,175.47	1,584.10	992.72	980.01
5,086.38	3,148.02	3,135.30	2,543.93	1,952.56	1,939.84
5,107.02	3,168.65	3,155.94	2,564.56	1,973.19	1,960.48

Source: According to internal documentation of IAE Belgrade, 2014.

Critical decline of production value, with simultaneous increase of variable costs, ranges within the interval 23.26-23.76%. Specifically, contribution margin equals to zero after production value was decreased, simultaneously with increase of variable costs for 23.75321% (i.e. when their values are equal, and in mention case amounts 3,146.36 EUR/250 m²).

Critical values (Table 3), or values at which the contribution margin equals to the zero, in defined production conditions are:

- Critical price amounts 0.16 EUR/flower;
- Critical yield amounts 9,857.93 flowers on production area of 250m²;
- Critical variable costs amounts 4,126.55 EUR/250m².

Table 3. Critical values in calla lily production

Indicator	EUR(flower)/250m ²
Expected yield - average (EY)	16,000
Expected price - average (EP)	0.26
Subsidies (S)	0.00
Variable costs (VC)	2,542.45
Critical price: CP = (VC - S) / EY	0.16
Critical yield: CY = (VC - S) / EP	9,857.93
Critical variable costs: CVC = (EY x EP) + S	4,126.55

Source: According to internal documentation of IAE Belgrade, 2014.

Cucumber production in greenhouse on the territory of the Republic of Serbia is usually organized as spring or autumn production. As initial growth and development of cucumber requires higher temperatures, seedlings production is established in warm seedbeds, glasshouses or greenhouses with heating. Sowing is usually done on the beginning of February, while in the organization of fall production cycle it is usually done in late May, or early June (Popović and Lazić, 1989).

In terms of environmental conditions cucumber has much higher requirements. For normal growth and development, light intensity of 8-9 thousand lx (lux) and daylight length of 10-12 hours are requested. Cucumber is especially sensitive to temperature (in all development stages). The optimal temperature, within the production process, ranges within the interval 28-32°C, while the optimal value for relative humidity varies between 85-95% (Bjelić, 1999).

Planting should be done in a well-prepared and well-manured soil, with inter-row spacing of 100-120 x 40-50 cm. During the vegetation period, regular care measures has to be applied, such as irrigation, hoeing, additional fertigation, protection from diseases and pests, supports (poles) installation, pruning, etc. Cucumber is very sensitive to powdery mildew and plasmopara viticola. Harvest should be well-timed, given that the cucumber fruits have to be classed (according to the determined fruit dimensions), (Marković, 2009).

Observed farm is selling the cucumber, partly on green market in Pančevo city and partly on wholesale market for agricultural products located in Belgrade. As the production is based on greenhouse conditions, producer usually succeeds to realize great part of cucumber production few weeks before regular season, achieving on that way relatively higher prices.

In the greenhouse production of cucumber, in compare to the production of cut flowers of calla lily, it was achieved relatively worse production results, so contribution margin in mentioned production amounts 737.75 EUR (Table 4).

Table 4. Calculation of cucumber production in greenhouse (on 250 m²)

Elements	Quantity	UM	Price per UM (EUR)	Total (EUR)
Cucumber (total yield)	3,650	kg	0.404	*
I class (80%)	2,920	kg	0.43	1,255.60
II class (20%)	730	kg	0.30	219.00
I Total income				1,474.60
Seed	650	seed	0.048	31.20
Costs of sowing	4	hour	1.72	6.88
Fertilizers	*	*	*	25.88

Pesticides	*	*	*	45.45
Pullback of vines	8	hour	1.72	13.76
Costs of harvesting (picking)	40	hour	1.72	68.80
Packing (wooden vegetable crate)	360	piece	0.3	108.00
Mulch foil	150	m ²	0.12	18.00
Drip irrigation tape	150	m	0.07	10.50
Bender	4	piece	2.15	8.60
Costs of binding	25	hour	1.72	43.00
Costs of rototilling	3	hour	4.3	12.90
Other costs (electric, transport, irrigation, heating, etc.)	*	*	*	343.88
II Total variable costs				736.85
III Contribution margin (I-II)				737.75

Source: According to internal documentation of IAE Belgrade, 2014.

Within the structure of variable costs dominates the group of other costs, which includes the costs of electricity, transport, heating, etc., with share of 46.67%. They are followed by the cost of packaging, which has share of 14.66%.

As like in the case of the production of cut flower of calla lily, in the production of cucumber in the greenhouse is also made a sensitivity analysis based on the results from the analytical calculation of variable costs of production (Table 5).

Table 5. Sensitivity analysis of cucumber production

PV (Production value), EUR/250m ²	VC (Variable costs), EUR/250m ²				
	490.96	494.65	736.85	979.05	982.74
982.53	491.56	487.88	245.68	3.47	-0.21
989.90	498.94	495.25	253.05	10.85	7.16
1,474.60	983.64	979.95	737.75	495.55	491.86
1,959.30	1,468.34	1,464.65	1,222.45	980.25	976.56
1,966.67	1,475.71	1,472.03	1,229.82	987.62	983.94

Source: According to internal documentation of IAE Belgrade, 2014.

In the cucumber production, critical decrease of production value, with simultaneous increase of variable costs, ranges in interval 32.87-33.37%. So, contribution margin equals to the zero when production value is reduced and variable costs are increased for 33.3605%, in other words when their values are equal and amount 982.67 EUR/250 m².

Table 6. Critical values in cucumber production

Indicator	EUR(kg)/250m ²
Expected yield - average (EY)	3,650.00
Expected price - average (EP)	0.40
Subsidies (S)	0.00
Variable costs (VC)	736.85
Critical price: CP = (VC - S) / EY	0.20
Critical yield: CY = (VC - S) / EP	1,823.89
Critical variable costs: CVC = (EY x EP) + S	1,474.60

Source: According to internal documentation of IAE Belgrade, 2014.

Values when, in specified production conditions, contribution margin equals to the zero, i.e. critical values presented in previous table are (Table 6):

- Critical price amounts 0.20 EUR/kg;
- Critical yield amounts 1,823.89 kg for the production area of 250m²;
- Critical variable costs amounts 1,474.60 EUR/250m².

Conclusion

Comparison of the production results of produced cut flower of calla lily and cucumber in greenhouse was made according to results of analytical calculations based on variable costs, sensitivity analysis and presentation of the critical values of production.

By focus on the results of analytical calculations based on variable costs in greenhouse production (for cut flower of calla lily and cucumber), which has been conducted on small agricultural holdings, following are noted:

- Contribution margin (gross financial result) in both types of greenhouse production have a positive value, but better results were achieved in the production of cut flowers of calla lily;
- Movement of critical fall of the production value, with a simultaneous increase of variable costs, is more expressed in the cucumber production.

Achieved production results indicate the fact that in given business conditions, small family agricultural holdings focused on cut flower of calla lily are achieving better results in compare to holdings directed to cucumber production in greenhouse.

References

- Bjelić, V. (1999): *Povrtarstvo*, skripte, Poljoprivredni fakultet, Beograd.
- Ćejvanović, F., Cvijanović, D., Grgić, Z., Hodžić, K., Subić, J. (2010): *Teorija troškova i kalkulacija u poljoprivredi - Dodatak - Katalog kalkulacija u poljoprivredi*, IEP Beograd, Ekonomski fakultet - Univerzitet u Tuzli, Fakultet poslovne ekonomije - Univerzitet APEIRON - Travnik, Poljoprivredno-prehrambeni fakultet - Univerzitet u Sarajevu.
- Đaković, S. (2012): *Kala*, magazine Agrobiznis, portal Agropress, October 11th, available at: www.agropress.org.rs/tekstovi/19509.html
- Institute of Agricultural Economics (2014): *Interview with selected agricultural holdings from the zone of the Central Danube Region*, internal documentation of IAE Belgrade.
- Jeločnik, M., Bekić, B., Subić, J. (2013): *Marža pokrića u mobilnom pčelarenju na teritoriji grada Pančeva*, Ekonomika Niš, Društvo ekonomista Ekonomika Niš, vol. LIX, IV-VI, br. 2, pp. 73-82.
- Marković, V. (2009): *Savremena proizvodnja krastavaca za kišeljnje*, available at: www.poljoberza.net/AutorskiTekstoviJedan.aspx?ime=PG281007.htm&autor=7
- Pejanović, R., Njegovan, Z. (2009): *Aktuelni problemi poljoprivrede i sela Republike Srbije*, Industrija, vol. 37, br. 1, str. 87-99, Ekonomski institute, Beograd.
- Popović, M., Lazić, B. (1989): *Gajenje ranog povrća u zaštićenom prostoru*, Nolit, Beograd.

- Steininger, J. (2011): *Potted Calla Lilies: Everything You Need To Know*, portal Greenhouse grower, September 16th, available at: www.greenhousegrower.com/plant-culture/potted-calla-lilies-everything-you-need-to-know/
- Subić, J. (2010): *Specifičnosti procesa investiranja u poljoprivredi*, Institut za ekonomiku poljoprivrede, Beograd.
- Subić, J., Nastić, L., Potrebić, V. (2013): *Economic effects of the thermal water use in vegetable production on the territory of Central Danube Region*, Economics of Agriculture, vol 60, no. 4, IAE Belgrade, pp.745-757.
- Subić, J., Vasiljević, Z., Rajić, Z. (2010): *Ekonomska analiza poslovanja poljoprivrednog gazdinstva*, Agroznanje, Poljoprivredni fakultet, Univerzitet u Banja Luci, BiH, vol. 11, br. 2, pp. 121-132.
- Vasiljević, Z., Subić, J. (2010): *Upravljanje troškovima u agroprivredi Srbije – činilac povećanja konkurentnosti*. In Proceedings: Agroprivreda Srbije i evropske integracije – (ne)prilagođenost obostranoj primeni Prelaznog trgovinskog sporazuma, DAES, Beograd, pp. 77-94.

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SCIENTIFIC REVIEW ARTICLE
Received: August 25, 2014
Accepted: October 05, 2014

FUNCTIONING MODEL OF HUMAN RESOURCE MANAGEMENT ON THE EXAMPLE OF HOTEL „HOLIDAY INN“ IN BELGRADE

Abstract

Human resources with their knowledge and competencies have become the main drivers of economic development, and increasing productivity, as the basis for the success of the organization, is based on human capital. Modern organizations have realized that only satisfied employees mean satisfied end-users, so they understood care about the employees as a necessary part of management. The paper analyzes, on the example of the hotel “Holiday Inn” in Belgrade, the connection between caring for employees and the degree of success of the organization, measured also by the number of loyal and new guests. The ways in which the company invests in its employees, and how they take care of the overall satisfaction of employees and their motivation, will depend the satisfaction of the guests, and the survival of organizations in the market.

Keywords: Human Resource Management, Hotel Holiday Inn, Belgrade, Serbia

JEL Classification: J53

МОДЕЛ ФУНКЦИОНИСАЊА МЕНАџМЕНТА ЉУДСКИХ РЕСУРСА НА ПРИМЕРУ ХОТЕЛА ”HOLIDAY INN” У БЕОГРАДУ

Апстракт

Људски ресурси са својим знањима и компетенцијама постали су главни покретачи привредног развоја, а повећање продуктивности као основа успешности организације се базира на људском капиталу. Савремене организације су схватиле да ће само задовољан запослени значити и задовољан крајњи корисник, те су бригу о запосленима схватиле као обавезан део менаџмента. У раду се на примеру хотела „Holiday Inn“ у Београду анализира веза између бриге за запослене и степена успешности организације, мерена и лојалношћу гостију и привлачењем нових. Од начина на који компанија улаже у своје запослене, те на који начин води рачуна о укупном задовољству запослених и њиховој мотивацији зависиће задовољство и гостију, те опстанак организације на тржишту.

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Introduction

Many changes in the environment condition changes such as changing the organization. Today, organizations operate in an environment that seeks different approaches, different ways of thinking and different structures. New ways of thinking means that people are in the first place, and the organization must turn to human resources. Human resources and their management have become a strategic asset of the organization (Kazlauskaitė, Bučiūniene, 2008), so finding and keeping good employees, especially ensuring their commitment to the organization are essential for achieving organizational goals (Ali, 2013).

Hospitality is a labor intensive activity, so the work of employees is a critical factor to business success of a certain hotel (Bjelić, 2009). The hotel staff invest their knowledge, skills and talent in the preparation and provision of hotel services. Employees of the hotel provide identity and recognition, as well as directly affecting the quality of services that is provided. Providing services in hotels assume direct contact of employees and guests, and the hotel business success depends on how employees are able to predict, recognize and offer what the customer wants and expects. Leaders of many organizations develop training programs, evaluate the work of employees and develop a working system based on the company's policy, which often aims to create loyal employees. The longer employees work for the company, they are more valuable to the company (Abdullah et al., 2009), and that is especially important in the service industry.

The authors of this paper analyzed, on the example of the hotel »Holiday Inn« in Belgrade, how care for employees as one of the principles of quality management affects the success of the business. Also, it is analyzed how the company invests in its employees, how to take care of overall employee satisfaction, as well as their motivation and sense of belonging to the company, with the aim to create satisfied employees who will affect on satisfaction and loyalty of the guests.

Human Resources - concept and importance

Economy in XXI century is knowledge-based economy and the key resources are people who have the knowledge, skills, experience, creativity and creative ability. If the companies are investing in their development, they are investing in the development of the whole society. Motivated and satisfied employees have great potential and can increase the competitiveness of the organization in the market and contribute to the achievement of its objectives (Pejanović, 2008).

The term “human resource” is about people in organizations. People are “the only creative element of any organization” (Bahtijarević-Šiber, 1999, p. 12). When managers are engaging in activities related to human resources, they need to facilitate cooperation among people, because it will be the only way to achieve strategic plans of the organization. The importance of the efforts and activities of human resource management stems from the fact that the people are a common factor for all organizations.

Successful companies pursue their development using the motto: “human resources before profits”. The business policy of modern organizations increasingly emphasizes the priority of human resources development and human relationships with employees. The most important organizational resources are not the equipment, technology or money, those are the employees now (Ivanović, 2010).

Employees are not just one of the most important resources of the company. They are also the most expensive and the most problematic resources. The importance of

human resources is increasing, and management of these resources is seen as a strategic interest of the organization. The success of modern companies can not be achieved without adequate human resources who have the knowledge, skills and personal qualities appropriate to the company's business objectives and requirements of the market.

Experts in human capital anticipated that in the future there will be deficit in skills of human resources, which could harm the competitive position of the organization if they do not invest more in human capital. Without people and their potential there is no organization and its success (Đorđević-Boljanović, Pavić, 2011).

All staff in the hotel, regardless of which level of management they belong to or at what level in the execution of a task they are, are called “hoteliers”, the persons who organize and provide hotel services for guests. Employees in hospitality sector strive for guest satisfaction, which is achieved by satisfying their needs and motives for which they arrived in the hotel or tourist destination.

From the staff in the hotel is required to have a broad general education, to possess knowledge and skills in verbal and nonverbal communication, knowledge of foreign languages, and knowledge of the related technologies. Especially important factor that differentiates the hotel from the competition and creates its image, are the employees who are in direct contact with the guests, so providing the right personnel is one of the most important tasks of management (Barjaktarović, 2013).

Professional staff will not be necessary quality in unsupportive and uncomfortable environment, especially in which the chaotic interpersonal relationships are and in which formal legal regulation of relations between employers and employees is questionable (Raos, 2010), so it is essential that all staff (receptionists, waiters, bartenders, maids...), are treated as a creative and visionary persons. Only such an attitude towards the employees will make them satisfied, and the organization will achieve its goals.

Employees care as the principle of quality management

”We will make you what we are -
our heart, our soul, our goals, our vision, our dreams,
so that you can join us, not only to work for us.
You have the right to know our hopes, our dreams and our goals.”
Ritz - Carlton Hotel Company

To achieve a high level of quality of hotel services, a necessary prerequisite is that the processes of decision-making is in line with the business vision of the company, and that it is based on cooperation, teamwork, and employee satisfaction, as well as the demands and wishes of the guests. As most of the services actually come from the meetings between people - meeting guests with the staff and vice versa, point of sale in the hospitality and tourism are human factors and quality of management. Values that hotel staff are showing with guests are the reflection of the value of communication with management staff. Focus on guests is a reflection of management orientation to colleagues. Motivating staff to focus on the visitor, and providing excellent service is based primarily on giving the importance to the same co-worker, his work and the importance of his conduct of the company as a whole (Perkov, 2005).

From the perspective of the manager, the term “guest” should be extended to those from which there is no direct earnings. Today, there are two types of guests: internal and external. “Internal” are employed in the hotel, and the “external” are those who come and pay for their stay. Modern philosophy says that external guests can be satisfied only

when the internal guests are satisfied. Employees of the hotel have priority. Management is required to convey the concept of the company to its people, so they could propagate it. Marriott, president of the “Marriott” corporation said that a “system, method, and politics of their home must primarily serve to people who serve the guests”, and “take care of employees and they will take care of your guests” (Bjelić, 2009). This kind of “care” refers not only various kinds of material gain, but rather the treatment of employees as the guests.

Employee care is a part of corporate social responsibility. Also, employee care is contained in the international quality standards (ISO), which require from managers to create such a working environment that will encourage their associates to achieve the organization’s goals. Hal Rosenbluth, owner of a large travel agency, has shocked the world of marketing with his book “The consumer is on the second place”, noting that in the first place are employees (Faulkner, 2003). This is especially true for service industry, because service business involves intensive contact between people. It is recommended that the staff should be viewed as consumers and management should try to understand them and meet their needs.

Employees, like customers, have their own needs. Some employees, primarily staff in direct contact with consumers are faced with high levels of stress, and it is important that the organization has a system of care. The more organizations demonstrate to their employees that they care, the more employees take care about consumer of the companies. An organization that invested a lot in their people can not afford to lose them and taking care about the employees may represent only a small effort that will provide good results in the future.

There are numerous examples of care for the employees in the hotel industry and other industries that have brought positive results for its organizations. For example, in the *Marriot* and *Choice* hotel, under the direction of Donna Klein, director in charge of work and family programs, at the Marriot hotel was built a large building for child care in order to meet needs of the nearly 2,000 employees. This non-profit consortium is described as a Family Assistance Center, and its functions include training on computers, share a meal, a variety of devices for children, aerobics classes for parents and children. On the other hand, the administration of *Choice* hotels paid travel expenses related to the visit of family members if they stayed at home, and the employees are working abroad. It also allows the permanent employees to take vacation even after 30 days of signing the employment contract (Cummings, Kwansa, 1998).

In order to strengthen the team spirit and improve the spirit level of employees, some companies engage agencies that are involved in the organization of educational and entertainment programs. This provides an opportunity for workers to show some kind of quality, and not infrequently happens that after such programs the role within the team is changing (<http://www.naslovi.net/2010-10-31/vesti-online/samo-zadovoljan-radnik-jeiproduktivan-radnik/2082965>).

Caring for employees on the example of the “Holiday Inn” in Belgrade

“Holiday Inn” is one of the world’s top brands in the hotel industry and since 1998 is part of the InterContinental Hotels Group, a chain that is a world leader in the number of rooms. The company IHG is one of the largest hotel groups in the world. The group owns, manages and gives the franchise for more than 3,800 hotels and has 571,000 rooms in a 100 countries in the world. Some of the historical characteristics of the “Holiday Inn” are:

- The founder is Kemons Wilson from Memphis,
- It is the first national hotel which gave the franchise,
- It is the first hotel which established a computerized reservation system (in 1965), as well as in advertising, hotel companies (Mijailović, 2008).

In mid-November of 2007 in Belgrade was opened first “Holiday Inn”, a member of one of the seven brands of InterContinental Hotels Group. A chain of four-star hotel “Holiday Inn” has more than 1,338 hotels in the world. Plan for construction of Belgrade’s “Holiday Inn” was developed in 2005. This hotel belongs to the so-called greenfield investments and operates as a franchise.

The hotel contains from five sectors: rooms, food and beverage, sales and marketing, financial and technical service. Within the sector, there are room reservations department, front office and housekeeping. Food and beverage sector includes a restaurant, bar and kitchen. Department of finance, with the exception of accounting, involves legal department, the department of human resources and procurement. Technical service consists of IT specialists, the department of fire prevention and safety procedures, as well as the maintenance department. Each of these sectors has at least one person who is responsible for the professional development of individuals in the sector (Bjelić, 2009).

In the business of the hotel, there were two phases: pre opening and soft opening. The pre opening office was employing a small team of people, mainly future managers of the sector. After that, the process of recruitment and selection for all other positions began. Complete team was formed six months before the opening of the hotel. Training in pre opening phase included learning certain rules and how should be applied. The leaders of the future teams attended courses in London, headquarters of “Holiday Inn” for the Europe, Middle East and Africa.

Employment policy for the hotel was based on the fact that, except for managerial positions, people were accepted with little or no experience in the industry. This is because the management felt that it is easier to establish an employee under the rules of brand if they have no previous experience in working in other hotels. Most of the employees had just finished college and this hotel was their first job. Today, the hotel employs about a hundred people, and the degree of fluctuation after two years of operation was only 6.5%.

The emphasis in the selection of potential employees was the willingness of the candidates to provide quality service, a willingness to meet the customer need, teamwork, verbal and nonverbal communication. Knowledge of at least one foreign language is, among other things, standard in InterContinental Hotels Group. Process orientation has enabled employees to learn about the building from the ground up, so they very well knew where everything should be, and informative visits to the site are aimed at rapprochement with the project in terms of its acceptance as a “future home”.

Care for the employees at this hotel means taking care of the overall employee satisfaction, motivation and reinforcing their sense of belonging to the company. Caring for employees is noticeable in the field of safety condition at work. All employees are required to undergo a training system for safe and healthy work. Regular checks are made for safety and health working conditions, microclimate, lighting, possible presence of physical and chemical hazards. In addition, all rooms are furnished in accordance with high standards. Faster and easier communication is available with the help of the networking on all computers in the company, as well as internal mobile phone networks. Employees who are in communication with the guests always have to wear a uniform, and each employee has his identification card. Employees have a personal cassette in which they can leave their belongings and clothes and that can be locked.

In addition to regular financial compensation for the work, the hotel has developed a system of incentives and rewards. Great attention is paid to the creation of opportunities

for advancement, based on the quality and commitment of employees. One example of the development of employees in the reservation department is exploring and mastering the “Holiday Inn’s” central reservation system called “HOLIDEX”.

Mystery Shopping is an American concept that has been used for decades as a reliable means to measure the level of service in a particular company and its positioning relative to the competition. Executives want to know what their clients or customers feel about the company and are they satisfied with the service. Since it is not possible to manager be their own customers, this has led to engage in so-called test customers, known as “mystery shopper”.

Analyzing audio recordings, photos and unbiased reports that professional buyer submits to the general director of the hotel, it could be noticed the weak and strong points of the employee and see if he is adopted to what is being taught in training. Based on the evidence, managers decide what will be the next steps in terms of training performance (Bjelić, 2009).

Also, hotel cooperates with IFH Institute (Institute for Hospitality Management). It is the largest institution of informal education in the hospitality industry in the world with headquarters in Frankfurt (Germany). According to IFH, several training courses are planned. For example, training on sales strategy has two levels and the first level of training is designed in order to develop a sense of skill sales. It involves the organization of work presentations, group discussions, individual and group exercises for a period of three days. The content of this course includes the following topics: program sales strategy and sales process, finding the proper perspective, sales departments, scheduling meetings, etc. (Mijailović, 2008).

The represented and training and on the job training, ongoing support and superior rotation. The objectives of the training and development of human resources in the hotel were divided into three groups, namely: increasing productivity, reducing fluctuations and balance efforts to satisfy customers. Training of employees allows to be detected and trigger employment and human potentials, thus enabling the motivation and focus in the right way. Managers, on the basis of the estimated capacity, define the necessary courses that each employee is required to attend. The hotel encourages employees for further education and training so they could expand their knowledge. In addition to the non-formal education, hotel invests in its employees through formal education: for many employees are paid undergraduate studies in the industry, as well as post-graduate or master studies.

Motivation and reward system has also been developed. The hotel organizes gathering of employees several times a year with the goal of fun and fellowship. On the birthday of the hotel, managers choose the most deserving individuals, and whoever is elected, the employee receives a trip for two anywhere in the world. Functioning of the team is analyzed through questionnaires that guests receive when they check-in. These questionnaires are sent every month in London, where they are analyzed. At the end of the year, questionnaires are collected from all over the world are compared. Based on that, the official IHG list in different categories by brands is publishing. Belgrade’s “Holiday Inn” is at the top, especially in the categories of “customer service” (data obtained from the human resources department of Holiday Inn hotel).

Conclusion

In the business philosophy of each country and company (especially in services, so in the tourism and hotel sector), one of the central places takes the human factor. Well

selected, trained, informed and motivated employees are considered as a factor of long survival and advancement of modern companies, so the main role of human resources manager is to contribute to increased employee productivity, and hence the quality of products and services of their engagement.

The ambience of contemporary organizations is seeking continuous learning, adaptation and innovation, independence, responsibility, self-development and the willingness to take risks. Because of that, people, and not the technology and structure, make the company successful. Realizing this, the employees of the top global hotel industry are cared in the same way they take care of their guests, because human capital is the only asset category in struggle for market dominance. If organizations show more concern for their employees, the more they will care for their customers. Employees who are satisfied in their workplace have a greater tolerance of frustration, they are open to change and to initiate their own ideas and cooperation.

The human factor is one that marks the service and makes it different compared to the competition. For success, it is necessary that employees in the hotel are well-coordinated team, in which each individual know how to play his special role.

On the example of the hotel “Holiday Inn” in Belgrade is indicated that it is necessary to hotel, from the start, take care of their employees, and that they should choose those employees who have the desire and are able to manage their careers. Organizations must be able at any moment to motivate employees to self-improve. It is essential that hotel and other organizations invest in their employees, because employee care is just a small effort. As a result of adequate care for the employees in the hotel industry, there is an increased number of loyal guests and often elusive competitive advantage in the market.

References

- Abdullah, R., Karim, N., Patah, M., Zahari, H., Nair, G. & Jusoff, K. (2009). The Linkage of Employee Satisfaction and Loyalty in Hotel Industry in Klang Valley, Malaysia. *International Journal of Business and Management*, 4(10), 152-160.
- Ali, A. (2013). Significance of human resource management in organizations: linking global practices with local perspective. *Journal of Arts, Science & Commerce*, 4(1), 78-87.
- Bahtijarević-Šiber, F. (1999). *Menadžment ljudskih potencijala*. Golden marketing. Zagreb.
- Barjaktarović, D. (2013). *Upravljanje kvalitetom u hotelijerstvu*. Univerzitet Singidunum, Fakultet za turistički i hotelijerski menadžment. Beograd.
- Bjelić, M. (2009). *Značaj obuke za upravljenje ljudskim resursima u hotelijerstvu*, master rad. Univerzitet Singidunum, Fakultet za turistički i hotelijerski menadžment, Beograd.
- Cummings, P. & Kwansa, F. (1998). *The role of the hospitality industry in the lives of individuals and families*. The Haworth Press. Philadelphia.
- Đorđević-Boljanović, J. & Pavić, Ž. (2011). *Osnove menadžmenta ljudskih resursa*. Univerzitet Singidunum. Beograd.
- Faulkner, M. (2003). *Customer Management Excellence - Successful Strategies from Service Leaders*. John Wiley & Sons Ltd. West Sussex.
- Ivanović, M. (2010). *Menadžment ljudskih resursa u hotelijerstvu Crnogorskog primorja*, doktorska disertacija. Prirodno-matematički fakultet, Departman za geografiju, turizam i hotelijerstvo, Novi Sad.

- Kazlauskaitė, R. & Bučiūniene, I. (2008). The Role of Human Resources and Their Management in the Establishment of Sustainable Competitive Advantage. *Engineering Economics*, 5(60), 78-84.
- Mijailović, S. (2008). *Značaj specifičnih kadrova poslovnog turizma u hotelu “Holiday Inn” u Beogradu*, diplomski rad. Prirodno-matematički fakultet, Departman za geografiju, turizma i hotelijerstvo, Novi Sad.
- Pejanović, R. (2008). *Ekonomija II – Uvod u markoenonomiju*. Poljoprivredni fakultet, Departman za ekonomiku poljoprivrede i sociologiju sela. Novi Sad.
- Perkov, D. (2005). Kvaliteta hotelske usluge je odraz organizacijske kulture. *Hotellink*, 6(6), 99-105.
- Data obtained from the Human Resources of the hotel “Holiday Inn” in Belgrade.
- Raos, V. (2010). Motivacija zaposlenih kao faktor organizacione kulture hotelskih preduzeća u Beogradu, master rad. Univerzitet Singidunum, Fakultet za turistički i hotelijerski menadžment, Beograd.
- <http://www.naslovi.net/2010-10-31/vesti-online/samo-zadovoljan-radnik-jeiproduktivan-radnik/20829> 65 (17.07.2014.)

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SCIENTIFIC REVIEW ARTICLE
Received: August 22, 2014
Accepted: September 05, 2014

AGGRESSIVE IMPLEMENTATION OF DIGITIZATION IN THE MODERN BUSINESS

Abstract

The global economic crisis business environment pressures companies to streamline their operations and thus forcing them to significantly speed up the process of digitizing, creating a kind of digital markets. It becomes clear that those who recognize the moment and who are willing to think a modern and unconventional, in terms of innovation, customer and business partners engagement, corporative organization, strategies, business models and the role of technology in their business enterprise, will be those who will be well-positioned in this new market, which will enable them to significant revenue growth. On the other hand, there is a significant business risk of fatal business loss in case of inaction, slowness, neglect and lack of understanding of this very important process in the business.

Keywords: business, digitization, management, marketing, customers.

JEL Classification: M1, M2, M3, L8, O32, O33

АГРЕСИВНО СПРОВОЂЕЊЕ ДИГИТАЛИЗАЦИЈЕ У САВРЕМЕНОМ ПОСЛОВАЊУ

Апстракт

U svetskom poslovnom okruženju ekonomska kriza pritiska kompanije da racionalizuju svoje poslovanje i samim tim primorava ih da značajno ubrzaju procese digitalizacije, stvarajući neku vrstu digitalnog tržišta. Postaje jasno da će oni koji prepoznaju momenat i koji budu spremni da razmišljaju savremeno i nekonvencionalno, na planu inovacija, angažovanja potrošača i poslovnih partnera, korporativnih organizacija, strategija, poslovnih modela i uloge tehnologije u njihovom poslovnom poduhvatu, biti oni koji će da se dobro pozicioniraju na ovom novom tržištu, što će da im omogući značajan rast prihoda. Sa druge strane, postoji značajan poslovni rizik od fatalnog poslovnog gubitka u slučaju pasivnosti, sporosti, zanemarivanja i nerazumevanja ovog veoma značajnog procesa u oblasti poslovanja.

Кључне речи: пословање, дигитализација, менаџмент, маркетинг, потрошачи.

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Introduction

Consumer relationships in digital economy represent a new phase of marketing development in XXI century. The key characteristics are reflected in creating close relations and cooperation of enterprises with their consumers and partners, all via the internet. It was the issue of non-established e-relations that was the main reason for the collapse of those companies that were the first to start doing business in the new, digital environment. In the future, the main challenge for enterprises will be to introduce the concept with the primary objective of achieving high customer satisfaction and their loyalty on the e-market.

The modern achievements made by information technologies are tearing down all space and time barriers. Nowadays, businessmen trade capital on the stock market from their own offices. Working from your office or your home, virtual teams and enterprises, distance learning, e-learning – all of these things represent basic manifestations of the growing trend of digitization and mobility in business, which, to a great extent, reflects onto the relationships between companies and their consumers. In these modern times we continuously adapt ourselves to the new economy trends, namely we live in *digital economy*.

Digital economy is based on electronic transactions via internet or some other electronic channel. Its main characteristics are flexibility, cooperation and high speed of interactivity amongst various entities within the value chain (e.g. interactions made between specific enterprise branches with suppliers and consumers).

The opportunities provided by digitization have been recognized in the business world. Digital technologies can be used for efficient communication with consumers in a direct, multimedia and interesting manner, they can be used for receiving return information from the consumers in relation to their needs, demands, suggestions, and one can gather information about existing and potential clients in order to create more quality contacts and records. In addition to that, digital technologies enable more efficient communication with employees or business partners; they enable joint work on projects of people who all live on different sides of the planet. However, even though by using these technologies one can acquire and distribute a large quantity of data, it is of the most extreme importance for that information to be processed and presented properly, in order to ensure efficiency of business processes. Digital technologies provide answers and tools for this field of work.

Digital Economy

Internet transactions or transactions through some other digital channel are the foundation of digital economy.⁴ The most important features of digital business are speed, innovations, flexibility and team work. The emphasis is placed on new knowledge and skills, which need to be updated daily. The rhythm of doing such business is no easy task, because it requires constant monitoring of new digital trends and demands. Digital client becomes spoiled and it becomes hard to please him. This is why it is required to always dispose with a large amount of data and offer products of superior performances.

Digital economy leads to ability to quickly re-organize company's resources and more demanding consumers. According to numerous predictions at the end of the last

⁴ Brynjolfsson Erik 2002, *Understanding the Digital Economy: Data, Tools, and Research*, Cambridge, Massachusetts, The MIT Press, 6.

century, the Internet was seen as a tool which will introduce “revolution” into modern business, and it was then that the expressions like “new economy”, “digital economy” and “internet economy” were first used. All this indicated that a great deal of business operations will be transferred onto internet platform, as well as that a great number of enterprises will begin to use electronic communication in dealing with their partners and consumers. With the advent of first virtual companies (dot.com) and their rapid collapse, many analysts have gone to extreme and saw the Internet as nothing more than a promotional channel. Namely, the Internet represents the biggest promotional channel, but it can be so much more – very important for companies whose business is based on knowledge and information. Nowadays, many world-known enterprises handle over 80% of their business activities via Internet and, in doing so, they achieve two key advantages: firstly, they reduce costs and, secondly, they offer benefits to their consumers that would not be possible without this channel – *Customer Relationship Marketing – CRM* is a concept that developed mainly due to the expansion of internet. The opportunity of direct and targeted contact with the consumers which was brought by the internet has resulted in personalization of relationships between companies with their consumers, establishment of database of consumers and monitoring of their activities by the company. Main goals – increasing sales and consumer satisfaction can be efficiently achieved by using different business models. Their further rapid development will provide a more significant role of this concept in modern companies’ business.

Digital economy enables market expansion, higher level of transparency of products and more precise targeting of consumers⁵. In the future, digital concept will be much broader and more influential, and certainly comprehensive, in order to be able to respond to growingly more sophisticated demands of consumers. Enterprises that want to do business in digital economy, in relation to consumers they need to have clearly established priorities and systems, in order to do business to the mutual satisfaction. There are numerous examples of successful digital business, and they all have common factors, like: innovation, professionalism, perseverance, tact and commitment to the client.

Digitizing Business in Serbia

In our country, enterprises have a considerable fewer resources than those in the West, which makes the level of digitization respectively smaller. However, it is noted that digital technologies are being used to a great extent, especially in the field of communication and engagement of consumers and business partners. Many companies use the internet in order to present their products and services and bring them closer to consumers, and one cannot ignore the growing consumer’s trend of informing themselves through internet regarding their future purchases. On-line trade is still in its growing stage, but there are noticeable developments in that field. According to the research⁶ conducted in 2013 by the Statistical Office of the Republic of Serbia, the majority of enterprises (around 98% of small and 100% of large enterprises) have internet access, and between 80% and 90% of them have their own web sites.

⁵ Fingar P, Aronica R. 2001, *The Death of E and the Birth of the New Economy*, Tampa, Florida, Meghan-Kiffer Press, 46.

⁶ Statistical Office of the Republic of Serbia 2013, *The Use of Information-Communication Technologies in Serbia*, <http://webzrzs.stat.gov.rs/WebSite/repository/documents/00/01/14/03/PressICT2013.pdf>, 10-12.

When speaking of larger enterprises, the thing that is noticeable is that they use technologies on a more refined level. Gas stations are networked and have enabled remote monitoring, enterprises that deal in technologies process large amount of data with these technologies etc. Also, following global trends, large enterprises employ experts in digital technology, and there have been more than a few new job openings for leadership positions and directorates, or departments for experts in the field of digital technologies, which are an equivalent to the Western position of CDO (explained below). When it comes to policies for employing experts in the field of digital technologies in our country, there exists a significant difference between medium and large enterprises, except in the field of telecommunications, commercial banking and real estate business, where that difference is very small, while small enterprises have a job position for IT expert in small percentages.

Regardless of the current state of development of the economy and entrepreneurship in our country, the management in our country recognizes the benefits provided by digital technologies and that the material moment is the dominant reason the slow pace and limitations in introducing digitization in business processes. However, it is very important for the managers to constantly follow developments in this business segment on a global level, so that they could take advantage of the opportunities by efficiently avoiding traps, problems and deceleration that those who are far ahead of us in digitization have had to fight with. When it comes to conditions like our own, it is very important to choose the most effective and the most rational way, and in choosing strategies, the experiences of those that have already been there is of great value.

Results of the Global Survey (McKenzie)

CEO (Chief Executive Officer – executive administrator, manager or boss) and other senior executives are increasingly more and more engaged in their companies in their efforts to build digital enterprises.

Given that business continues to accept digital tools and technologies – especially in communication with clients, the followers of the “C” level⁷ have, according to recent McKenzie’s analysis, stated that they will increase their own involvement in the design and management of digital strategies. The internet survey was conducted from 2nd to 12th April 2013, and it has gathered responses from 850 employees of the C level, representing the full range of industries, regions and different sizes of companies. 8.6% of the examined employees specifically concentrated on the technology.⁸ In order to coordinate the differences in responses, the data was estimated in relation to each examinee’s nation and global gross of domestic product. This is of vital importance for the success of digital programs, given that the examinees often state that the lack of senior executive’s interest is the main reason for the lack of initiative (for digitization). The respondents equally believe that organizational deployment is crucial in understanding the impact of digitization onto business.

The examinees in the survey were questioned about the five trends of digital enterprises: large amounts of data and advanced analytics, digital engagement of clients, digital engagement of employees and external partners, automation and digital

⁷ C level relates to slang “C-suite”, meaning top managers.

⁸ Brown Brad, Sikes Johnson, Willmott Paul 2013, *Bullish on digital: McKinsey Global Survey results*, McKinsey Quarterly, August 2013, http://www.mckinsey.com/insights/business_technology/bullish_on_digital_mckinsey_global_survey_results

innovation. In the 2012 survey they were asked about three different digital trends: large amounts of data and advanced analytics, digital marketing and social media, and flexible platforms of delivery.⁹ In the new survey, great deal of attention was placed on adopting and concentrating of their companies on each of the trends, the possible impact digital technologies could have and do have on their business and the difficulties the companies face while reaching towards their digital goals. It was discovered that, in spite of lack of organization and talent, the employees remain optimistic in views of digital business.

They report that, for example, their enterprises increase the use of digital technologies when communicating with clients and reaching towards them in many different ways. Moreover, rising actions report that their companies give high priority to digital marketing and client engagement. Still, a lot needs to be done: the majority of employees estimate that, in best case scenario, their companies are only a quarter of the way to realize the final vision of their digital programs.

Focus on Customers at the Forefront

The employees respond that each of the five trends they were questioned about has a strategic priority in their enterprise. More than 40% of the examinees state that each of the five aforementioned trends is at the top 10 special priorities or higher, and at least one out of five employees states that each of the trends can be found in top three priorities. Out of them all, the highest ranking trend in client (buyer) engagement: 56% state that digital engagement of clients is at least one of the top ten priorities of their companies, and the full analysis clearly shows a significant improvement since 2012 in developing practices with these trends (Appendix 1). The enterprises have achieved a great advance in using digital technologies in their use of digital technology in the systematic placement of materials electronically, and in setting up personalized or conditional offers available on the Internet.

Compared with each other, different enterprises have been much slower in accepting digital approach in engaging employees, suppliers and external partners. In relation to this, the employees state that their enterprises mostly use Internet resources for estimating their employees, for feedback information and for processing data. There are fewer reports of more advanced use, such as product design collaboration and knowledge sharing within the network.

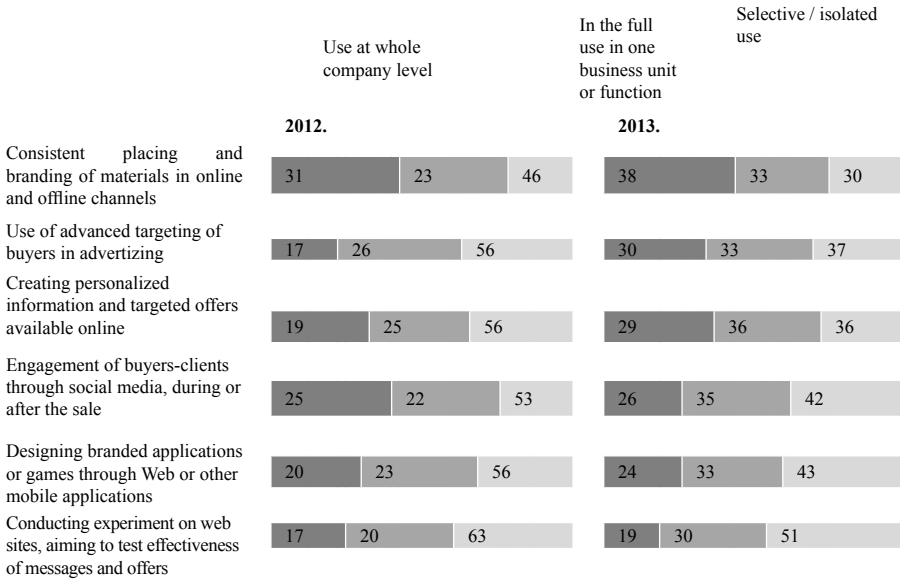
Responses also indicate that the growth in the widespread use of important data and advanced analytics of the company corresponds to the experiences of all kinds of companies, where it is noticeable that employees think that analytics are the priority, and they pay a great deal in developing new tools for its use. What is also noticeable is that examinees have reported on increased use of data in order to improve decision making, research and development processes, budgeting and forecasting (Appendix 2). Moreover, employees claim that their enterprises use analytics in order to further develop. Greater engagement shows that they concentrate their analytics either on increased income or into improving production quality. Reducing costs leans towards the lower priority level.

⁹ Brown Brad, Sikes Johnson 2012, *Minding your digital business: McKinsey Global Survey results*, McKinsey Quarterly, May 2012, http://www.mckinsey.com/insights/business_technology/minding_your_digital_business_mckinsey_global_survey_results

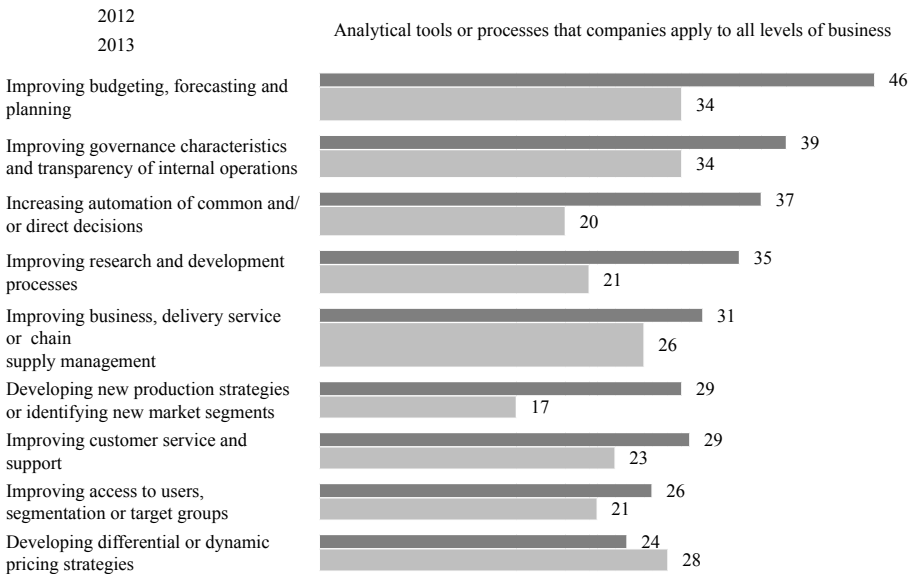
Appendix 1 Increasing Digital Engagements of Clients

% examinees¹⁰

The practice of the company's use of digitization in engaging customers



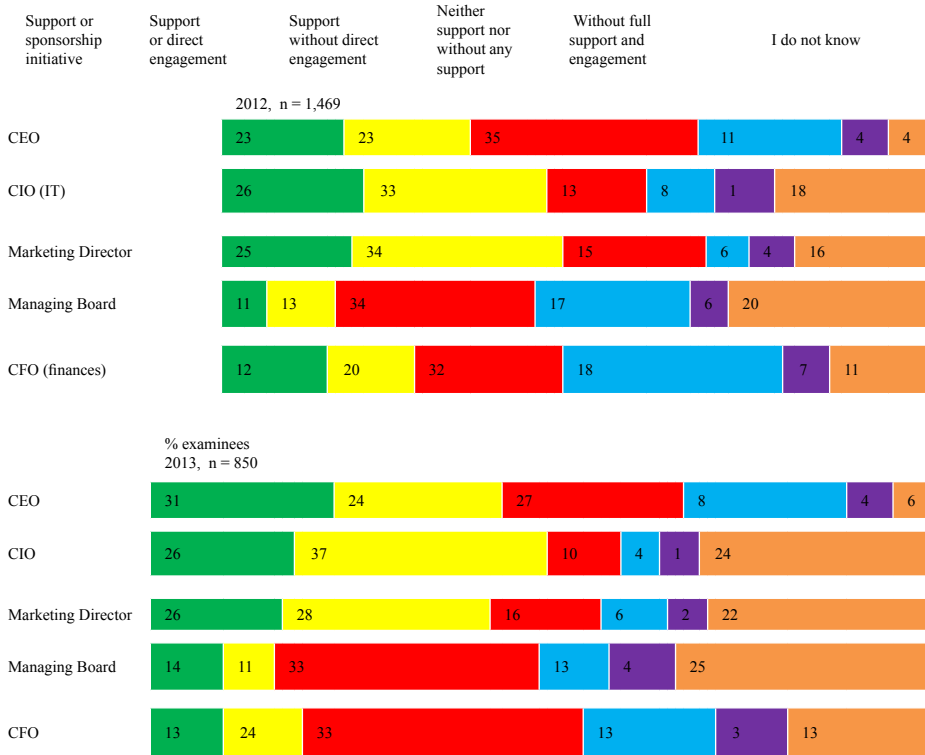
Appendix 2 Use of Analytical Tools Also on the Rise % examinees



¹⁰ The numbers do not add to the total sum of 100% due to rounding. The numbers were re-counted after removing answers to the question “I do not know”.

Appendix 3 Directors now more often agree to sponsor digital initiatives than in 2012.

The level of support and involvement in initiative of business digitization per role (job position)²



At the question of the next wave of automation of business process, the examinees have all similarly responded that their companies automate a broad range of functions, in order to improve the overall quality of production (for example, by removing obstacles and errors), or in order to build new digital capacities (for example, remote monitoring) in production. Several of them responded that their companies have automated production primarily in order to replace the workforce. With regard to introducing innovations, more than 40% of them state that the companies either merge with existing digital technologies with the existing production, or they modernize operative models of their technologies (for example, cloud computing¹¹). Only 23% examinees stated that their companies conduct digital production exclusively.

Executive Directors (CEO) are Increasingly Involved

Through most of the employees at the C level (or with respect to the most important managers, chiefs or directors), the majority of the respondents claim that it is these

¹¹ In science, the term “cloud computing“ is the synonym for computing distribution through the Internet and other means.

responsible managing directors who provide support and take active part in the initiative for digitization (Appendix 3). In 2013, 21% of their managing directors have personally sponsored these initiatives, unlike in 2012, when that number was lower – around 23%. This growth illustrates the importance of new digital programs in enterprises' business, as well as the problems these organizations face with: often enough, the CEO is the only executive director who has the mandate and capabilities to manage such diverse program.

Also, 30% of them responded that the heads for digital supervision at executive teams of their companies equally show awareness as to how much these initiatives are important. This result goes with the experience that some organizations have created CDO as the position of executive level with cross-responsibility for the entire digital initiative. Chief Digital Officer (CDO) is an individual who contributes to the growth and supervises operations in the rapidly changing digital sectors, such as mobile applications, social media and related categories, and controls virtual resources.¹² The sign that this new position already has a creative value is reflected in the fact those examinees who have CDOs in their companies, given that they are the ones who already show significant improvement in their relations to digitization, unlike those who do not have CDOs.

Organizational Challenges Continue

Despite numerous technical challenges in implementing digitization, the examinees state that success (or failure) of these programs ultimately depends on organization and management, rather than technical aspects. Directors were asked to reflect on previous initiatives within their enterprises (about one initiative that has worked, and one that hasn't) and then to recognize decisive factors that have prevailed in these cases. Most often, the directors attribute the success of digital programs to managerial factors – managers showing interest and seniors paying attention, inner leadership, good program management and nivelation between organizational structure and objectives – and they name technical review less (Appendix 4). It is interesting that lack of interest from senior management is the factor the examinees most often recognize as the factor which contributes to the failure of an initiative.

Organizational issues may also prevent company's efforts to achieve goals and to fully understand real contributions of digitization.¹³ Like in 2012, directors most often say that poorly leveled organizational structure is the biggest problems their companies face with. This is followed by insufficiently elaborated business processes (such as data experts or digital marketing). As a contrast, lack of infrastructure and absence of good data are now less of a problem than they were in the earlier years.

In those enterprises where organizational structure presents a problem, there is a smaller report on the prevalence of corporate financial progress, which derives from digitization: 31% of these directors claim that their engagement for digitization resulted in fruitful, notable contribution at the final results from the top, or bottom, when compared to 43% of directors who do not face this challenge. At the same time, many examinees are

¹² Connelly Tim 2012, 'Chief Digital Officer' is the next hot executive title, says Gartner, Beta News, <http://betanews.com/2012/10/22/chief-digital-officer-is-the-next-hot-executive-title-says-gartner/>

¹³ Gijić N., Jović – Bogdanović A. Reko K. 2014., „Crisis and resource allocation“, Niš, Друштво економиста, *Ekonomika*, br 2, 93.

not certain as to how they can measure their engagement: only 36% state that companies in which they are employed have the metric system for monitoring overall progress of digitized program.

High Expectations and Continuous Investment

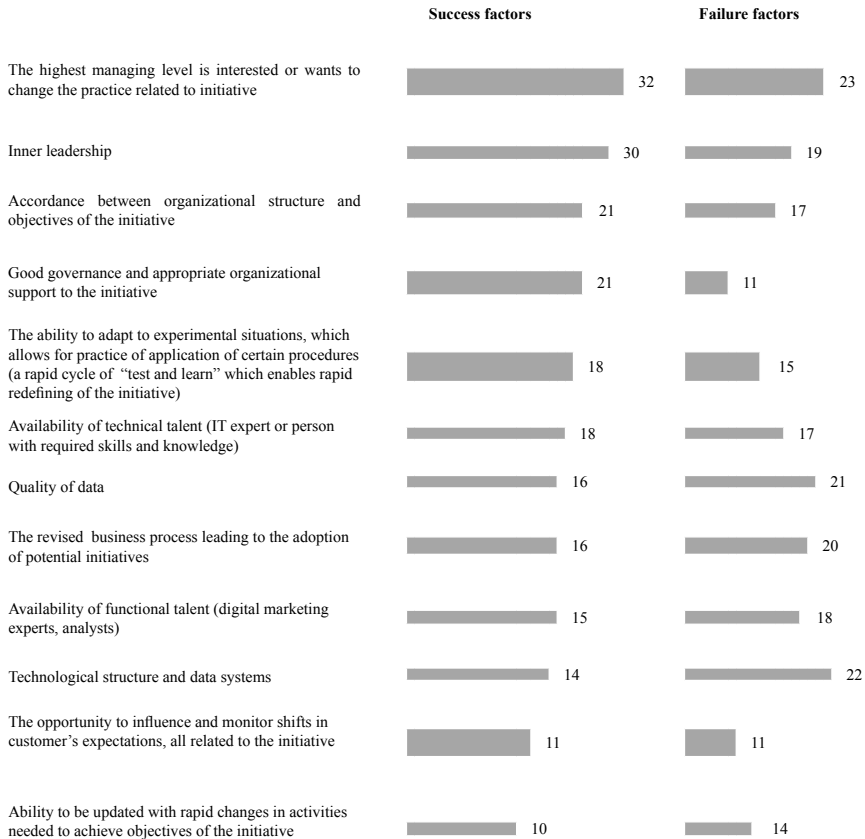
Leaving challenges aside, executive directors remain pushy when it comes to digital business: 65% of them state that they expect growth in company's business and growth in income in the following three-year period, which is similar to results made in the previous five years. Executive directors are far more positive than other managers, and more than one fifth of them state that they expect increase in income through digital business for more than 30% in the next three years. Once asked about their expectations when it comes to top digital business, directors of cooperating enterprises are even more optimistic than those who lead consumer related enterprises, probably due to the increased consumer's expectations, price transparency and competitive pressures they have to handle. While the examinees are aware of the value of all five trends, they hope that greater increase of value will come from engaging consumers in relation to other trends: directors who expect increase of income from digital business attribute most of this increase to digital engagement of consumers (Appendix 5). Amongst those who expect negative impact on company's revenues, the largest number states that it is all related to the inability to respond to frequent changes in customer's behavior and expectations.

The directors say that their companies continue to seriously invest in their digital programs – and that, on average, they expect higher spending in relation to last year's results. There are clear differences in the comparison by region: examinees from North America, for example, say that their companies invest on a level much higher than in other regions, including Europe, where companies usually manage to go ahead with North America (Appendix 6). However, currently around one third of managers say that their companies spend an appropriate sum of money on digital resources and many of them are worried that it just is not enough of investment in these programs.

Still, the examinees think that their companies have a long way to go in order to achieve their goals for digital business. 57% state that only a quarter of a vision for their digital programs has been achieved, and only 40% say that digital efforts made by their organizations have had a measurable effect on their business. Directors say that their enterprises have spent sufficient sum of money on digitization, they report that the impact on their business was higher (60%), as well as those who say that their companies have crossed more than half of the way towards their vision (56%), but they do add that there still is room for improvement.

Appendix 4

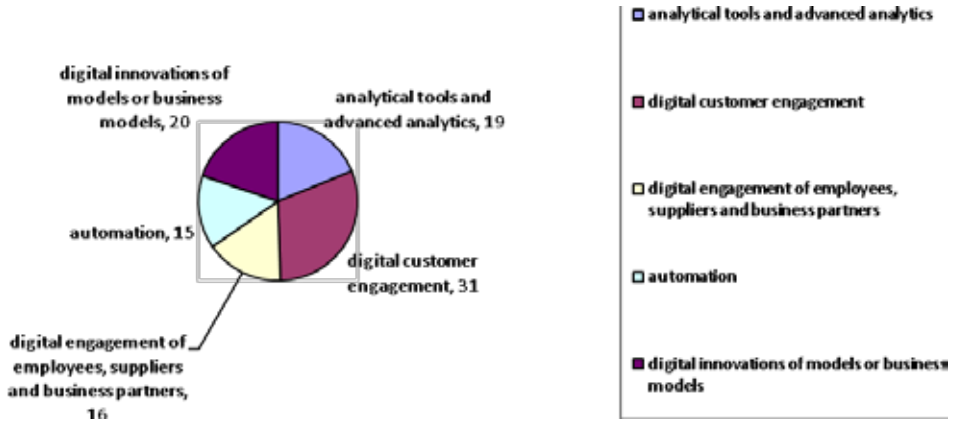
% examinees n = 850

Factors that contribute the success the most, or factors that contribute to failure in company's efforts in digitization initiatives

It is necessary to find true “digital leaders”. Leadership is the most significant factor for success or failure of digital programs. The increased participation of the highest level of leadership (C level) is a positive sign, especially establishing the position of head “digital expert”, which is the leading indicator for increasing the development speed. This development needs to be continuous if the companies want to meet the high demands of digitization.

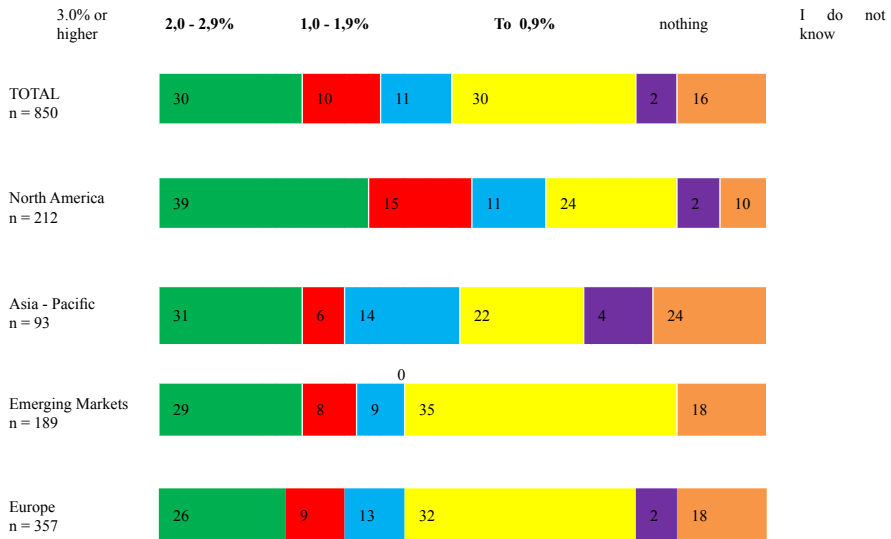
Appendix 5

n = 568 % of the expected increase of income related to digital business, which can be contributed to 5 digital trends¹⁴



Appendix 6 % examinees per region

Expected fraction of the total cost based on the initiative of the digital business in the previous fiscal year



¹⁴ The numbers do not add to the total sum of 100% due to rounding.

Guidelines

When it comes to digitization, not only is it important to find the right leader, but it is equally as important to establish appropriate goals and maintain a clear and not overly enthusiastic vision. The leaders will have to cross this road carefully, constantly keeping in mind reports on organizational, technical and cultural level.

It is hardly surprising that the participants of the survey – the examinees have expressed their doubts in regards to finding appropriate talents their companies need to find and implement within the process of achieving their “digital” objective. Technical, functional and business skills are of great importance for digital programs. We have already witnessed several companies using the “acqui-hiring” systems (employing entire small enterprises along with their employees, not only their products) in their practice when it comes to high technologies. However, finding and employing talents is merely a part of solution, and regardless of where the talent comes from, further development and retention of quality is equally as important for the retail market.

Conclusion

Consumers’ needs and demands dictate the pace and direction that the whole society, and the economy in its scope, will move into. While in the classic business is based on vendor-buyer relation, on which one can build a specific bond of trust and closeness, in the digital eras these relations cease to exist, so attracting and engaging customers, aiming to become successful, and further to increase revenues, which is an incredibly difficult task, and where the digital marketing plays a really important role. Accomplishing this task is extremely complicated, and it consists of combining technologies, information processes, people, resources and processes.

Massive use of the internet has contributed to developing new business technologies and tools. The prospect of direct and targeted contact and addressing the costumers is an exceptional privilege, one that can be used to increase the company’s capital. Innovation and tact are also of great importance. There are new experts in the fields of marketing, design, as well as in basic computer sciences and programming. We can freely say that this is an era of new business phases, which has completely new dimensions of work and approach to customers. What is constantly monitored are the needs, changes in trends, and in parallel to them the technology needs to be developed, in this case the digital one, which will be able to satisfy all demanding clients.

Therefore, one of the key areas of the management process is related to informatics – to IT systems. It is not enough to exhaust oneself with analyzing necessary information that management needs in order to make appropriate managing decisions, but it is necessary include information processing by means of information technology. This necessity derives from undisputed premise that information has become an integral part of all economic and sociological activities. Given that the scope of information in management is almost unlimited, the top management needs to define informational system for different hierarchical levels or in specific functional areas (technical function, finance, commerce, human resource development function etc).

The biggest mistake Serbian businessmen make is that they are not trained to use modern technical aids, primarily computers, electronic devices, appliances and other devices. It is a mistake that pays a high price, especially in communications and negotiations with foreign managers. It is difficult to manage business in old school and inadequate ways. It is extremely difficult to be an equal partner in business relations with

computerized management of developed market economies. Managers from developed economies do not make that mistake. They are equipped with the so-called computer backpack, which consists of: phone, fax, computer, telex, the ability to use e-mail etc. foreign managers simply cannot perform their duties effectively without these technical aids. This way they increase their managerial powers.

McKenzie's research led to conclusion that directors and managers are more and more engaged, and that their companies investing increasing efforts towards the achievement of digitization in business. Directors are satisfied with the market success of their companies, and the way managers handle their own working duties. It is important to find the right talent, regardless of where it comes from, because only with real talent one can achieve real success. Looking ahead, companies oriented towards digitization have great chance of success; they are close to their desired objectives.

The secret of success in this field lies in harmonization of the organization with desired objectives, employing appropriate talented people, capable of properly managing processes, and in investing the right amount of funds. As the key factor of success (as well as failure) in introducing digitization in their companies the examinees name support provided by senior management, given the fact that they are the ones who have the capacities to support, promote and push this process to the very end. The companies that have proven to be very successful have developed a new managing position – CDO (*Chief Digital Officer*), which indicates the importance of the digitization process. Research shows that companies that have introduced this position, and in doing so given proper significance to this process, resulted in significantly higher percentage of digitization than those which have not done that.

References

- Brown Brad, Sikes Johnson 2012, “Minding your digital business: McKinsey Global Survey results”, *McKinsey Quarterly*, May 2012,
http://www.mckinsey.com/insights/business_technology/minding_your_digital_business_mckinsey_global_survey_results
- Brown Brad, Sikes Johnson, Willmott Paul 2013, “Bullish on digital: McKinsey Global Survey results“, *McKinsey Quarterly*, August 2013,
http://www.mckinsey.com/insights/business_technology/bullish_on_digital_mckinsey_global_survey_results
- Connelly Tim 2012, “Chief Digital Officer’ is the next hot executive title, says Gartner“, Beta News, <http://betanews.com/2012/10/22/chief-digital-officer-is-the-next-hot-executive-title-says-gartner/>
- Brynjolfsson Erik 2002, “Understanding the Digital Economy: Data, Tools, and Research“, Cambridge, Massachusetts, The MIT Press.
- Fingar P, Aronica R. 2001, “The Death of E and the Birth of the New Economy“, Tampa, Florida, Meghan-Kiffer Press.
- Gijić N., Jović – Bogdanović A. Reko K. 2014., „Crisis and resource allocation“, Niš, Друштво економиста, *Ekonomika*, br 2.
- Statistical Office of the Republic of Serbia 2013, “The Use of Information-Communication Technologies in Serbia”,
<http://webrzs.stat.gov.rs/WebSite/repository/documents/00/01/14/03/PressICT2013.pdf>

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SCIENTIFIC REVIEW ARTICLE
Received: September 29, 2014
Accepted: October 31, 2014

IMPACT OF GLOBALIZATION ON VEGETABLE CROPS PRODUCTION PER CAPITA IN SERBIA (2000-2012)²

Abstract

Subject of this paper is to introduce the concept of globalization in general, and the possibility of making different strategies of development of this sector in Serbia. It also states the importance of the establishment of the World Trade Organization (WTO), which can be said with certainty that it is initiator of the globalization of all sectors of the economy. The aim of the study was to determine the strength of the globalization on agriculture in Serbia. Finally, given is the production of selected vegetables (potatoes, beans, peppers and tomatoes) in Serbia in the period 2000 - 2012 total and by population. Research methods are based on a literature search of specify themes, consultation with experts in agriculture and application of mathematical and statistical methods (rate of change).

Key words: globalization, WTO, transition, farming, population

Jel Classification: Q10, Q13

УТИЦАЈ ГЛОБАЛИЗАЦИЈЕ НА ПРОИЗВОДЊУ ПОВРТАРСКИХ КУЛТУРА ПО СТАНОВНИКУ У СРБИЈИ (2000-2012)

Апстракт

Предмет рада је увођење у појам глобализације уопште, као и могућности израде различитих стратегија развоја поменутог сектора у Србији. Наводи се и значај оснивања Светске трговинске организације (СТО) за коју се може са сигурношћу рећи да је иницијатор глобализације свих сектора привреде. Циљ рада је да се утврди јачина глобализације на пољопривреду Србије. Наполетку, дата је производња изабраних повртарских култура (кромпир, пасуљ, паприка и парадајз) у Србији у периоду 2000 – 2012 укупно и по броју становника. Методе истраживања су засноване на претраживању литературе из задате области, консултацији са стручњацима у пољопривреди, као и примени математичко статистичке методе (стопа промене).

Кључнe речи: глобализација, СТО, транзиција, повртарство, становништво

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² Paper work is part of the project research 46006: „Sustainable agriculture and rural development in function of Republic of Serbia strategic goals achievement within the Danube region“, and project 179028: „Rural work market and rural economics of Serbia - diversification of income and decrease of rural poverty“ financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

Introduction

Globalization is a process or a set of processes that include transformation in the spatial organization of social relations and transactions. The process of transition changes is usually followed by a series of negative consequences of which are regular: the emergence of the recession, social insecurity, reducing the number of employees, social stratification, corruption, a drastic drop in living standards and others. The main initiator of global trade and globalization in general is the World Trade Organization (WTO). WTO is committed to removing all obstacles to achieve free trade, and thus to remove all economic borders between nations. Keeping in mind that the general globalization includes all sectors of the economy, accordingly and agriculture found in the globalization process. From the overall agricultural production was analyzed production of selected vegetables: potatoes, beans, peppers and tomatoes. Analysis of the sown area under mentioned vegetable crops and production given per capita and the period of analysis is 2000-2012. Display table refers to the fact that the population of Serbia, year after year decreased steadily. The thirteen-year reporting period the population decreased by 317.269 (with 7,516,346 in 2000 to 7,199,077 in 2012), ie. averaged 24,405 less per year. Natality rate is 9.3 ‰ and 14.2 ‰ mortality rate. Areas under selected vegetable crops are constantly varied, with a significant decrease of surface, especially from 2010-2012. These results show that although the number of inhabitants decreased, the area under arable land have remained unchanged or decreased again, but this reduction was not any faster than the population decline. However, in those years in which the total production of crops grew, grew and production per capita, which is contradictory to the fact that the population is declining. Thus, the decline in production povtarskih culture was negligible compared to the population decline.

Definition of globalization

Many scientists (domestic and foreign) point out different views and definitions of globalization. *Ikerd (2004)* states that globalization means global ecosystem and the market in which we can not influence. *Lovre et al. (2011)* point out that globalization is a process and a set of processes that include transformation in the spatial organization of social relations and transactions. *Vojnovic et al. (2006)* thinking that it can not avoid the fact that most of the national economy have led themselves in a very unfavorable economic conditions in which they should be out, so unless outside help is often no alternative. The process of transition changes is usually followed by a series of negative consequences of which are regular: the emergence of the recession, social insecurity, reducing the number of employees, social stratification, corruption, a drastic drop in living standards and others. *Kostić (2013)* states that globalization tends economic and information exchange, evens various cultural institutions, the mobility of people and so on. In the service of promoting globalization are used in fashion, education, sport, tourism and the like. It also states that globalization has entered the sovereignty of states, which sharpens the problem of national identity.

The importance of establishing the World Trade Organization (WTO)

The World Trade Organization (WTO) is dedicated to eliminating all obstacles to achieve free trade, and thus to remove all economic borders between nations. When economic boundaries are removed, the cultural boundaries to become clouded, and the

ecological limits will remain open to economic exploitation. Cultural and ecological diversity are considered as obstacles to economic progress. Thus, the global economy will allow greater geographic specialization, greater standardization of processes and products and enable global corporations to achieve even greater economies of scale (Ikerd, 2004). In the global agricultural economy, small farms will be replaced by large farms, which will be controlled by large multinational corporations. Small farmers simply can not compete on a free market global economy.

Access to global agricultural development of Serbia

Cvetkovic et al. (2008) suggest that further development of Serbia calls for a new system of development. The main changes that contribute to global agricultural development are reflected in the implementation of market liberalization and ownership transformation of enterprises. For Serbia to enter the second phase of the transition process, primarily has to complete the process of liberalization and privatization and to create macroeconomic stability. According to projected developments, Serbia and the agricultural sector are on totally opposite sides. The basic determinants of agro Serbia are (*Cvetkovic et al., 2008*):

- *general financial exhaustion;*
- *lack of working capital and investment funds;*
- *lack of organization;*
- *incoherence and fragmentation of business entities agriculture;*
- *low productivity and competitiveness, and the like.*

Although the share of agriculture in GDP high, this can not be attributed to good condition in agriculture, but also to other parts of the economy in crisis for many years. In order to increase the competitive advantages of domestic agricultural products is necessary to define competitive strategy. According to *Cvetkovic et al. (2008)* „*Strategy competitiveness of agro-industry should be included in all levels to achieve cost, price competitiveness and product quality.*” So, domestic agricultural enterprises should comply with international business standards and to break with the politics of protection, but to improve and modernize the facilities for the production of healthy food.

Vegetable production per capita in Serbia (2000 – 2012)

In this section, it shall first be referred to the basic characteristics of selected vegetables: potatoes, beans, peppers and tomatoes.

Potatoes are native to the western parts of South America, where it is cultivated since ancient times. Potato is an important food crop and the volume of production in the world is in the range with rice, wheat and corn. Potato production on a worldwide basis is constantly increasing. Due to rapid economic development of China, India and Brazil, developing countries constants recorded an increase in production. Today the world leader in the production is China with 72,000,000 in 2007. The Republic of Serbia, potatoes are sown on 87,000 ha, of which Central Serbia to 67,000 ha, and 20,000 ha of AP Vojvodina (http://www.poljoberza.net/AutorskiTekstoviJedan.aspx?ime=PG022_1a.htm&autor=7).

Bean is the most famous and the most widespread legume in the world as a vegetable crop belongs to the group of grain legumes. Beans are definitely the most

popular legume, brought from America to Europe in the 16th century, along with potatoes and corn. None of vegetable crops, except potatoes, did not develop much variety and variations as beans. The largest producers are India, China, Indonesia, Brazil and the United States. In Serbia beans as main crop grown on an average of 24,000 ha, with an average yield of about 1.3 t/ha. Than that in Central Serbia on 16,000 ha in AP Vojvodina on 7,000 ha. The importance of beans as vegetables in nutrition of our population is large. The average annual consumption per capita in our country is more than 10 kg (<http://www.tehnologijahrane.com/tehnologijavoca-i-povrca/pasulj>).

Pepper is mainly produced from seedlings and less direct sowing, except spicy pepper that is produced mainly by direct sowing. Technologically mature fruits are used in fresh, processed or preserved state. Leading countries in the production peppers are Spain, China, Italy, USA, Bulgaria, Hungary and others. In our country, grown on 19,000 ha, while in Central Serbia to 15,000 ha and AP Vojvodina on 5,000 ha. Pepper is one of the most cultivated and the most profitable crops, used in technological and physiological maturity, with spice is used for the production of ground pepper. Grown in the open field and greenhouse (Kljajić et al., 2013).

Tomato is one of the most important types of vegetables to the global scale and in our country. In our climate tomato production is carried out in protected areas (tunnels, greenhouses) and in the open field growing from transplants or direct seed sowing at a fixed place. Growing tomatoes for fresh consumption to the greatest extent is (95%) performed over the production of seedlings, while the industrial tomato products usually direct seed sowing. In our country, grown on 21,000 ha, while in Central Serbia on about 15,000 ha and AP Vojvodina, about 6,000 ha (Kljajić et al., 2013).

The movement of population in Serbia (2000-2012)

Population censuses are the primary source of statistical information on the number, territorial distribution and main characteristics of persons and households in the Republic of Serbia. According to data from vital statistics in 2012, the population growth rate is -4.9 ‰. The rate of population growth is 9.3 ‰ and 14.2 ‰ mortality rate. Republic Statistical Office since 1999 does not have specific data for AP Kosovo and Metohia, so they are not included in the data for the Republic of Serbia (total). The population of Serbia has registered a permanent decrease. Change in population is caused by the migration. In the period from 2002 to 2012, the number of population decreased by near 300, 954, the average annual growth rate was -4.0 per 1.000 inhabitants. (Statistical Yearbook, 2013). The following is a tabular overview of the number of population in Serbia in the period 2000-2012 (Table 1).

Table 1: Number of population in Serbia (2000-2012)

Year	Number of population
2000	7,516,346
2001	7,503,433
2002	7,500,031
2003	7,480,591
2004	7,463,157
2005	7,440,769
2006	7,411,569
2007	7,381,579
2008	7,350,222
2009	7,320,807
2010	7,291,436
2011	7,234,099
2012	7,199,077

Source: Statistical Office of the Republic of Serbia (2007, 2013): Statistical Yearbook, Belgrade

Table display 1 indicates that the population of Serbia, year after year decreased steadily. The thirteen-year reporting period the population decreased by 317,269 (with 7,516,346 in 2000 to 7,199,077 in 2012), ie. an average of 24,405 or less per year. This information may be referred to the conclusion that the annual emptied a village or a small town. The reasons for the decline in this number can be manifold: the mortality rate is higher than the birth rate, going abroad, many families with only one child, and the like. So, in 2012 there is 4.22% less population than in 2000. Tabular overview of population per year will be the basis for the calculation of many other indicators that will be analyzed in the remainder of this paper. Depending on the movement of the population will depend on the results obtained.

Production of selected vegetable crops in Serbia per capita (2000-2012)

Next table (Table 2) analyzed the arable field by way of using per capita for the period 2000-2012.

Table 2: Arable field by way of using per capita (2000-2012)

Year	Total	Total per capita	Cereals	Cereals per capita	Industrial crops	Industrial crops per capita	Vegetable crops	Vegetable crops per capita	Fodder crops	Fodder crops per capita
2000	3,214,000	0.43	2,057,000	0.27	363,000	0.05	313,000	0.04	480,000	0.06
2001	3,243,000	0.43	2,128,000	0.28	323,000	0.04	312,000	0.04	481,000	0.06
2002	3,190,000	0.43	2,102,000	0.28	328,000	0.04	293,000	0.04	466,000	0.06
2003	3,171,000	0.42	1,997,000	0.27	420,000	0.06	291,000	0.04	463,000	0.06
2004	3,165,000	0.42	2,020,000	0.27	389,000	0.05	292,000	0.04	464,000	0.06
2005	3,132,000	0.42	1,972,000	0.27	414,000	0.06	285,000	0.04	461,000	0.06
2006	3,067,000	0.41	1,888,000	0.25	436,000	0.06	284,000	0.04	458,000	0.06
2007	3,095,000	0.42	1,943,000	0.26	413,000	0.06	282,000	0.04	457,000	0.06
2008	3,099,000	0.42	1,937,000	0.26	416,000	0.06	281,000	0.04	466,000	0.06
2009	3,089,000	0.42	1,956,000	0.27	403,000	0.06	276,000	0.04	455,000	0.06
2010	3,066,000	0.42	1,894,000	0.26	439,000	0.06	273,000	0.04	460,000	0.06
2011	3,067,000	0.42	1,911,000	0.26	429,000	0.06	272,000	0.04	455,000	0.06
2012	3,060,000	0.43	1,919,000	0.27	421,000	0.06	264,000	0.04	456,000	0.06

Source: Statistical Office of the Republic of Serbia (2003, 2007, 2010, 2013): Statistical Yearbook, Belgrade

During the period, the total arable field have varied. Had the highest value in 2001 (3,243,000 ha), and the lowest in 2012 (3,060,000 ha). Although the population declined in the analyzed years, arable land has not changed significantly. So, in 2012, under arable fields was 5.64% less area compared to 2001. However, in the years between 2001 and 2012, the total area of arable field has decreased and increased, as shown in tables. Availability of arable land population was in the range 0.41 - 0.43 ha per capita. The smallest area of arable field to population is calculated for 2006 (0.41 ha per capita).

This year is the strongest decline in the total area of arable field compared to the previous year (2005). These results show that although the number of inhabitants decreased, the area under arable field have remained unchanged or decreased again, but this reduction was not any faster than the population decline. The reasons for the increase of arable field are the result of the conversion of land that had previously been for other purposes (meadow, pasture, orchard, vineyard) and after conversion influenced the growth of the total area of arable field. In Table 3 are displayed sown areas of selected vegetable crops per capita (2000-2012).

Table 3: Sown areas of selected vegetable crops per capita (2000-2012)

Year	Potatoes	Potatoes per capita	Bean	Bean per capita	Pepper	Pepper per capita	Tomatoes	Tomatoes per capita
2000	94,000	0.013	27,000	0.004	20,000	0.003	21,000	0.003
2001	94,000	0.013	25,000	0.003	19,000	0.003	21,000	0.003
2002	91,000	0.012	25,000	0.003	19,000	0.003	21,000	0.003
2003	88,000	0.012	25,000	0.003	20,000	0.003	21,000	0.003
2004	89,000	0.012	24,000	0.003	20,000	0.003	21,000	0.003
2005	85,000	0.011	23,000	0.003	19,000	0.003	20,000	0.003
2006	84,000	0.011	23,000	0.003	19,000	0.003	21,000	0.003
2007	81,000	0.011	23,000	0.003	19,000	0.003	21,000	0.003
2008	81,000	0.011	21,000	0.003	19,000	0.003	20,000	0.003
2009	78,000	0.011	21,000	0.003	19,000	0.003	20,000	0.003
2010	77,000	0.011	20,000	0.003	18,000	0.002	20,000	0.003
2011	78,000	0.011	20,000	0.003	18,000	0.002	20,000	0.003
2012	75,000	0.010	19,000	0.003	18,000	0.003	20,000	0.003

*Source: Statistical Office of the Republic of Serbia (2004, 2009, 2011, 2013):
Statistical Yearbook, Belgrade*

During the period, sown areas under *potatoes* have varied. Had the highest value in 2000 and 2001 (94,000 ha) and the lowest in 2012 (75,000 ha). Although the population declined in the analyzed years, sown area under potatoes has declined slowly from population declines. So, in 2012 the potatoes was 20.21% less area compared to 2001. However, in the years between 2001 and 2012, the total area under potatoes has decreased and increased, as shown in tables. Availability of land under potatoes per capita ranged from 0.010 to 0.013 ha per capita. The smallest area under potatoes-to-population was calculated for the year 2012 (0.010 ha per capita). The most pronounced decline in area under potatoes was recorded in 2005 compared to the previous year (2004). These results show that although the number of inhabitants decreased, the area under potatoes have remained unchanged or decreased again, but this reduction was not any faster than the population decline. The reasons for the increase in the area under potatoes are the result of the conversion of land that had previously been for other purposes (meadow, pasture, orchard, vineyard) and after conversion influenced the growth of the above mentioned areas. During the period, the sown area under *beans* tended permanent decrease. Had the highest value in 2000 (27,000 ha) and the lowest in 2012 (19,000 ha). Although

the population declined in the analyzed years, sown area under beans has declined slowly from population declines. So, in 2012, under the beans was 29.63% less area compared to 2000. Thus, in the years between 2000 and 2012, the total area under beans exclusively was decreasing. Availability of land under beans per capita was 0.003 ha . The most pronounced decline in the area under beans was recorded in 2008 compared to the previous year (2007). These results show that although the number of inhabitants decreased, the surface of the beans have remained unchanged or decreased again, but this reduction was not any faster than the population decline. During the period, the sown area under *peppers* have varied. Had the highest value in 2000, 2003 and 2004 (20,000 ha) and the lowest in 2010, 2011 and 2012 (18,000 ha). Although the population declined in the analyzed years, sown area under pepper declined more slowly than the population decline. So, in 2012 under the pepper was 10.00% less area compared to 2000. Thus, in the years between 2000 and 2012, the total area under pepper growing and declining. Availability of the area under pepper per capita was in the range 0.002-0.003 ha. These results show that although the number of inhabitants decreased, the area under arable field have remained unchanged or decreased again, but this reduction was not any faster than the population decline. During the period, sown areas under *tomatoes* were not significantly changed. Had the highest value in 2000 (21,000 ha) and the lowest in 2012 (20,000 ha). Although the population declined in the analyzed years, sown area under tomato has declined slowly from population declines. So, in 2012 the tomato was 4.76% less surface area compared to 2000. Thus, in the years between 2000 and 2012, the total area under tomatoes varied. Availability of land under tomato per capita was 0.003 ha (as with beans). The most pronounced decline in the area under tomato has not been recorded. These results show that although the number of inhabitants decreased, the area under tomatoes are remained unchanged or decreased again, but this reduction was not any faster than the population decline. Table 4 will show achieved production of potatoes (kg) in Serbia per capita (2000-2012). However, the sown area (ha) and yield (kg/ha) will not be presented to the population due to the large range of values, and the results will not be adequate.

Table 4: Achieved production of potatoes (kg) in Serbia per capita (2000-2012)

Year	Area harvested (ha)	Production (kg)	Production (kg) per capita	Yield (kg/ha)
2000	93,897	620,923,000	83	6,600
2001	93,554	1,015,017,000	135	10,900
2002	91,199	917,579,000	122	10,100
2003	88,131	679,309,000	91	7,700
2004	89,050	975,090,000	131	11,000
2005	85,034	969,562,000	130	11,400
2006	84,434	930,305,000	126	11,000
2007	81,379	743,282,000	101	9,300
2008	81,172	843,545,000	115	10,400
2009	78,169	898,282,000	123	11,500
2010	76,675	887,363,000	122	11,600
2011	78,377	891,513,000	123	11,400
2012	75,449	577,966,000	80	7,700

Source: Statistical Office of the Republic of Serbia (2004, 2009, 2011, 2013): *Statistical Yearbook, Belgrade*

Harvested area under potatoes has the highest value in 2000 (93,897 ha), while the lowest was in 2012 (75,449 ha). Percentage decline in areas between 2000 and 2012 was 19.65%. *Potato production* has the highest value in 2001 (1,015,017,000 kg), although the surface was lower (93,554 ha) compared to 2000, when production was lower (620,923,000 kg). The minimum value of potato was produced in 2012 (577,966,000 kg). Percentage decline in output between 2001 and 2012 was 43.06%, which is almost twice less produced than in 2001. *Potato production is expressed in kg/per capita* was the highest value in 2001 (135 kg/per capita), and the lowest in 2012 (80 kg/per capita). Percentage decline in the production per capita between 2001 and 2012 was 40.74%. It is notable that although the population steadily declined, output per capita is varied. However, in those years in which the total production of potatoes grew, grew and production per capita, which is contradictory to the fact that the population is declining. Thus, the decline in potato production was negligible compared to the population decline. *Yield of potatoes (kg/ha)* had the highest value in 2010 (11,600 kg/ha) and lowest in 2000 (6,600 kg/ha). The percentage decrease in the yield of potatoes between 2000 and 2006 was 43.1%, which is almost twice less produced than in 2000. These facts are contradictory, because the yield was the highest in years when production and harvested area did not have the greatest value. Explanation for the rise in yields on the influence of favorable natural conditions in 2010 and a growing awareness of farmers for doing this type of farming.

Table 5 will show achieved production of beans (kg) in Serbia per capita (2000-2012). However, the harvested area (ha) and yield (kg/ha) will not be presented to the population due to the large range of values, and the results will not be adequate.

Table 5: Achieved production of beans (kg) in Serbia per capita (2000-2012)

Year	Area harvested (ha)	Production (kg)	Production (kg) per capita	Yield (kg/ha)
2000	26,475	32,409,000	4.31	600
2001	25,326	60,521,000	8.07	1,200
2002	25,042	56,592,000	7.55	1,100
2003	25,102	45,023,000	6.02	800
2004	24,383	59,939,000	8.03	1,200
2005	23,162	58,726,000	7.89	1,300
2006	22,678	54,585,000	7.36	1,200
2007	22,405	39,224,000	5.31	900
2008	21,366	42,183,000	5.74	1,100
2009	21,202	46,337,000	6.33	1,200
2010	20,268	43,237,000	5.93	1,200
2011	19,555	39,508,000	5.46	1,200
2012	18,851	26,849,000	3.73	1,000

Source: Statistical Office of the Republic of Serbia (2004, 2009, 2011, 2013): Statistical Yearbook, Belgrade

Harvested area under beans had the highest value in 2000 (26,475 ha), while the lowest was in 2012 (18,851 ha). Percentage decline in areas between 2000 and 2012 was 28.8%. *Production of beans* had the highest value in 2001 (60,521,000 kg), although the surface was smaller (25,326 ha) compared to 2000, when production was lower (32,409,000 kg). The minimum value of the beans were produced in 2012 (26,849,000 kg). Percentage decline in output between 2001 and 2012 was 55.64%, which is twice

less produced than in 2001. *Production of beans is expressed in kg/per capita* was the highest value in 2001 (8.07 kg/capita), and the lowest in 2012 (3.73 kg/capita). Percentage decline in the production per capita between 2001 and 2012 was 53.78%. It is notable that although the population steadily declined, output per capita is varied. However, in those years in which the total production of beans grew, grew and production per capita, which is contradictory to the fact that the population is declining. Thus, the decrease bean production was negligible compared to the population decline. *Yield of bean (kg/ha)* had the highest value in 2005 (1,300 kg/ha) and lowest in 2000 (600 kg/ha). The percentage decrease in the yield of beans between 2000 and 2006 was 53.85%, which is almost twice less produced than in 2000. These facts are contradictory, because the yield was the highest in years when production and harvested area did not have the greatest value.

Table 6 will show achieved pepper production (kg) in Serbia per capita (2000-2012). However, the harvested area (ha) and yield (kg/ha) will not be presented to the population due to the large range of values, and the results will not be adequate.

Table 6: Achieved peppers production (kg) in Serbia per capita (2000-2012)

Year	Area harvested (ha)	Production (kg)	Production (kg) per capita	Yield (kg/ha)
2000	19,887	137,392,000	18.28	6,900
2001	19,411	132,474,000	17.66	6,800
2002	19,460	144,446,000	19.26	7,400
2003	20,019	141,923,000	18.97	7,100
2004	19,760	143,649,000	19.25	7,300
2005	19,181	151,821,000	20.40	7,900
2006	19,416	177,255,000	23.92	9,200
2007	19,252	150,257,000	20.36	7,800
2008	18,827	151,317,000	20.59	8,000
2009	18,541	171,366,000	23.41	9,200
2010	18,475	154,953,000	21.25	8,400
2011	17,888	145,206,000	20.07	8,100
2012	17,480	130,104,000	18.07	7,400

Source: Statistical Office of the Republic of Serbia (2004, 2009, 2011, 2013): Statistical Yearbook, Belgrade

Harvested area under pepper had the highest value in 2003 (20,019 ha), while the lowest was in 2012 (17,480 ha). Percentage decline in areas between 2003 and 2012 was 12.68%. *Pepper production* had the highest value in 2006 (177,255,000 kg), although the surface was smaller (19,416 ha) compared to 2000, when production was lower (137,392,000 kg). The minimum value produced peppers was in 2012 (130,104,000 kg). Percentage decline in output between 2006 and 2012 was 26.6%. *Pepper production, expressed in kg/per capita* the highest value was in the year 2006 (23.92 kg/capita), and the lowest in 2001 (17.66 kg/capita). Percentage decline in the production per capita between 2001 and 2012 was 26.17%. It is notable that although the population steadily declined, output per capita is varied. However, in those years in which the total production peppers grew, grew and production per capita, which is contradictory to the fact that the population is declining. Thus, the decline peppers production was negligible compared to the population decline. *Pepper yield (kg/ha)* had the highest value in 2006 and 2009 (9,200 kg/ha) and lowest in 2001 (6,800 kg/ha). The percentage decrease in the

yield peppers between 2006 and 2009 was 26.09%. These facts are agreed, because the yield was the highest in a year when production recorded the highest value, but sowing area had the highest value.

Table 7 will be displayed achieved production of tomatoes (kg) in Serbia per capita (2000-2012). However, the harvested area (ha) and yield (kg/ha) will not be presented to the population due to the large range of values, and the results will not be adequate.

Table 7: Achieved production of tomatoes (kg) in Serbia per capita (2000-2012)

Year	Area harvested (ha)	Production (kg)	Production (kg) per capita	Yield (kg/ha)
2000	20,969	160,056,000	21.29	7,600
2001	20,856	175,184,000	23.35	8,400
2002	21,177	199,184,000	26.56	9,400
2003	21,209	163,606,000	21.87	7,700
2004	20,855	184,688,000	24.75	8,900
2005	20,428	169,076,000	22.72	8,300
2006	20,947	189,222,000	25.53	9,000
2007	20,583	152,005,000	20.59	7,400
2008	20,309	176,501,000	24.01	8,700
2009	19,921	189,353,000	25.87	9,500
2010	20,181	189,412,000	25.98	9,400
2011	20,229	198,677,000	27.46	9,800
2012	19,338	155,663,000	21.62	8,100

Source: Statistical Office of the Republic of Serbia (2004, 2009, 2011, 2013): Statistical Yearbook, Belgrade

Harvested area under tomato has the highest value in 2003 (21,209 ha), while the lowest was in 2012 (19,338 ha). Percentage decline in areas between 2003 and 2012 was 8.82%. *Tomato production* has the highest value in 2002 (199,184,000 kg), although the surface was smaller (21,177 ha). The minimum value of tomatoes were produced in 2007 (152,005,000 kg). Percentage decline in output between 2007 and 2012 was 23.69%. *Tomato production is expressed in kg/per capita* the highest value was in the year 2011 (27.46 kg/per capita), and the lowest in 2007 (20.59 kg/per capita). Percentage decline in the production per capita between 2007 and 2011 was 25.02%. It is notable that although the population steadily declined, output per capita is varied. However, in those years in which the total tomato production grew, grew and production per capita, which is contradictory to the fact that the population is declining. Thus, the decline in production of tomatoes was negligible compared to the population decline. *The yield of tomatoes (kg/ha)* had the highest value in 2011 (9,800 kg/ha) and lowest in 2000 (7,600 kg/ha). The percentage decrease in the yield of tomato between 2000 and 2011 was 22.45%. These facts are contradictory, because the yield was the highest in years when production and sowing area did not have the greatest value.

Conclusion

For further functioning of the national economy in a globalized environment, it is necessary to transform the ownership of companies. In the global agricultural economy, small farms will be replaced by large farms, which will be controlled by large multinational

corporations. Small farmers simply can not compete in a free market global economy. Organizations that wish to remain competitive at the international level must establish, document, implement and maintain a quality management and continually improve its effectiveness. A number of companies in the agricultural sector of Serbia technological lags behind developed countries, so that investment in technology, the initial condition for gaining competitiveness itself on the market requirements of the above international standards. Further development of Serbia calls for a new system of development. This applies particularly to agricultural products, ie. in the production of wine. For Serbia significance is the introduction products with protected geographical origin, which is a measure of the quality of the product.

Analysis of the production of selected vegetable crops per capita indicates that production varied in some years (notably declined in the period from 2010 to 2012) and the population steadily declined. Thus, the production decline has been slower than population decline. Generally, the reduction of surface with a constant decrease in the population is proportional to each other. However, in this case, unchanged surface causes an increase in production, and run by residents who falls resulting in an increase in production per capita, which is totally paradoxical.

In the future, to improve the growth of vegetable production in total and per capita, it is essential that the Ministry of Agriculture, institutes, agencies and other relevant institutions to collect and process data, their activities more focus on small farmers and allocate more funds (premium, subsidies and other incentives) and the picture of agricultural production will be better.

References

- Cvetković, N., Grk, S., Vidas-Bubanja, M. (2008): Tranzicioni izazovi agroprivrede Srbije u kontekstu međunarodnih integracija, *Časopis Ekonomika poljoprivrede*, 3/2008., Beograd, pp. 237-251.
- Ikerd, E. J. (2004): The Globalization of Agriculture: Implication for Sustainability of Small Horticultural Farms, XXVI International Horticultural Congress: Sustainability of Horticultural Systems in the 21st Century, Toronto, Canada, 2004., pp. 399-410.
- Kljajić, N., Grujić, B., Vuković, P.: *Analiza proizvodnje povrća u Republici Srbiji*, Zbornik naučnih radova sa XXVII savetovanja agronoma, veterinara, tehnologa i agroekonomista, Vol. 19, br. 1-2, Institut PKB Agroekonomik, Beograd, 2013., str. 261-272.
- Kostić, A. (2013): *Globalizacija i srpski identitet*, *Časopis Ekonomika*, br. 3, Niš, pp. 65-71.
- Lovre, K., Gajić, M., Kresoja, M. (2011): *Globalizacija i održivi razvoj poljoprivrede*, Tematski zbornik Agrarna i ruralna politika u Srbiji nužnost ubrzanja reformi, Društvo agrarnih ekonomista Srbije, Beograd, Novi Sad, , pp. 1-10.
- Statistical Office of the Republic of Serbia (2004., 2007., 2009., 2010., 2011., 2013): *Statistical Yearbook*, Belgrade, Serbia
- Vojnović, B., Kutin, M., Stanić, R. (2006): *Globalizacija – ekonomski, politički i kulturni proces*, *Časopis Ekonomske teme*, br. 1-2, Niš, pp. 157-165.
- http://www.poljoberza.net/AutorskiTekstoviJedan.aspx?ime=PG022_1a.htm&autor=7 (28.05.2014.)
- <http://www.tehnologijahrane.com/tehnologijavoca-i-povrca/pasulj> (28.05.2014.)

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SCIENTIFIC REVIEW ARTICLE
Received: September 23, 2014
Accepted: October 27, 2014

THE DYNAMICS OF THE VOLUME AND STRUCTURE OF INTEREST ON THE PUBLIC DEBT OF THE REPUBLIC OF SERBIA

Abstract

This paper analyses the fluctuation of interest on the public debt, as one of the oldest kinds of transfers which is closely related to the indebtedness of the state. The analysis of the expenditure dynamics for interest on public debt covers the period between 2003 and 2013. The goal of this research is to point out the efficiency of the activity of the economic policy within the analyzed period based on the relative changes in the transfer volume and the structure of the interest repayment, as well as to make certain projections for the future. Based on the analysis conducted, it was concluded that the fall of economic activity in 2009 had a significant effect on debt, which caused a drastic increase of the interest repayment transfers in the following years.

Keywords: public debt interest, indices, growth rates

JEL Classification: E630

ДИНАМИКА ОБИМА И СТРУКТУРЕ КАМАТА НА ЈАВНИ ДУГ РЕПУБЛИКЕ СРБИЈЕ

Апстракт

У овом раду се анализира кретање камата на јавни дуг, као једне од најстаријих врста трансфера која је уско повезана са задуживањем државе. Анализа динамике расхода за камате на јавни дуг покрива период од 2003. године до 2013. године. Циљ истраживања у овом раду јесте да се на основу релативних промена, како у обиму трансфера на име отплате камата, тако и у њиховој структури, али и пројекција за будући период, укаже на ефикасност активности економске политике у анализираном периоду. На основу спроведених анализа закључено је да је пад економске активности у 2009. години имао значајног ефекта на задуживање, што је условило драстично повећање трансфера на име отплате камата у годинама које следе.

Кључне речи: камате на јавни дуг, индекси, стопе раста.

Introduction

The modern conditions characterized by the increase in public debt led to the public debt policy being an important instrument influencing the economic policy. While the fiscal and monetary policies influence the policy of income and expenditure, i.e. the

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changes in the level of money circulation, the technique of the public debt policy consists of the changes in the public debt structure in terms of its maturity and ownership. The public debt has a long-term influence on the accumulation and expenditure of future generations, because the burden of financing the debt reduces the expenditure possibilities of the population. The internal public debt requires paying interest to the owners of bonds, which leads to imposing taxes that reduce the propensity for investment.

The public debt interest is one of the oldest kinds of transfers and is connected to government borrowing. The reasons for government borrowing are numerous; however, the effects of such government activities are much more important. Namely, this leads to an outflow of capital accumulation from the indebted country into the creditor country, which additionally implies negative effects on the present and future state of the public finances and the economy as a whole. Apart from that, due to increased government borrowing in the domestic market, the tax burden of the taxpayers will also increase in order for the state to collect as much public income possible, so as to finance its obligations.

Furthermore, the negative effect of additional borrowing can affect the interest rate fluctuation on the money market. By selling securities, the state mobilizes financial resources from the money market, therefore disturbing the previous balance. That in turn leads to a decrease in the money supply, which causes an increase in the interest rates, i.e. the increase in the price of this production factor. This discourages business entities to invest and leads to the effect of „crowding out investments“. These phenomena suggest that the state needs to find a balance both in the income and the expenditure aspect of its interventions in order to maintain the stability of the market. As far as public finance transfers are concerned, one needs to consider both the positive and the negative effects of active state interventions in order to conceive an action policy.

Another similar scenario which includes the influence of increased government borrowing on the cost of capital can occur when the government directly borrows funds from the central bank. This causes the primary issuing of money, which, as opposed to the previously discussed situation, increases the money supply. However, this leads to inflationary fluctuations, since there was an increase in monetary aggregates without the simultaneous increase in the real sector. In other words, the newly created money supply has no in-kind coverage. The result of that is an overall price increase, including the price of production, which in turn causes an additional decrease in private investment, which is another aspect of the negative effect of excessive government borrowing.

A significant portion of the public debt goes to state guarantees issued for public enterprises. If enterprises are able to meet their obligations, these guarantees increase the level of public debt, but require no additional funding. If enterprises are not able to finance their obligations, these guarantees are activated and additional funds are necessary to pay for the principal and the interest.

1. The analysis of the transfers for the interest on the public debt of the Republic of Serbia

The analysis of the public debt interest is able to provide a conclusion whether the observed country was able to devise a funding method that does not lead to additional debt. Apart from the level and the structure of public debt, the expenditure on interest is influenced by factors such as the exchange rate and the interest rate in the international market.

The analysis of the fluctuations in the interest transfer volume in the Republic of Serbia refers to the 2003-2013 period. The analysis of the structure of these transfers primarily considers:

- Interest payments for domestic loans;
- Interest payments for foreign loans;
- Interest payments for activated guarantees; and
- Associated costs of borrowing

The fluctuation of expenditures for interest payment is conditioned by the repayment plan for the principle and the interest on the debt. The volume of these transfers and their share in overall public expenditure and the GDP from 2003 to 2013 are shown in Table 1.

Table 1. The volume of transfers for interest payment from 2003 to 2013

Year	Interest payments (interest amount in millions of dinars)	Share in overall transfers	Share in total expenditure	Share in GDP
2003	10,977.9	3.94%	3.44%	0.98%
2004	13,403.7	4.05%	3.56%	0.97%
2005	17,150.5	4.23%	3.69%	1.02%
2006	19,274.9	4.04%	3.39%	0.98%
2007	14,806.5	2.75%	2.27%	0.65%
2008	13,880.4	2.20%	1.87%	0.52%
2009	20,016.4	2.86%	2.25%	0.74%
2010	30,132.5	3.99%	2.85%	1.05%
2011	40,337.3	4.89%	3.45%	1.26%
2012	63,145.8	6.78%	4.90%	1.89%
2013	89,262.5	9.37%	6.39%	2.47%

Source: “*Bilten Javnih finansija br. 119*” (*Bulletin of Public Finances No. 119*), (July 2014), Ministry of Finance of the Republic of Serbia.

Expenditure for interest payments shows significant growth every year due to the rapid public debt growth and the need to finance infrastructure projects with loans from international financial institutions. The largest portion of the public debt of the Republic of Serbia (71.7%) has a fixed interest rate, while a variable interest rate is associated with 28.3% of the overall public debt. Overall transfers regarding interests in 2013 are 8 times larger as compared to 2003. The average annual expenditure growth rate regarding interest in this period is 23.31%. Taking the analyzed period into consideration, 2007 and 2008 were the only years when a decrease in budget expenditure in this respect was recorded.

By analyzing the share of interest payment transfers in the GDP, it can be concluded that they have increased by 152% in the observed period, i.e. in 2013 as compared to 2003. The issue of the sustainability of public debt servicing is a complex one and demands an elaborate analytical approach. The current relation between the debt and the GDP is an important indicator which points to the necessity to find a solution for the issue of sustainability, but it's not crucial for the solution itself. The solution depends on the influence of a series of factors in the current economic and development policy.²

The fluctuations of certain expenditure components for the interest payments in the analyzed period are shown in Table 2.

² Marčetić M., Đurić O., 2012, Analiza duga Republike Srbije i njegove metodološke odrednice (The Analysis of the Debt of the Republic of Serbia and Its Methodological Guidelines), *Economy and Market Communication Review*, edition 2, page 275.

Table 2. Fluctuation of interest payment transfers in the Republic of Serbia from 2003 to 2013 in millions of dinars

Year	Interest payment	The amount of interest on domestic loans	The amount of interest on foreign loans	Interest payments for activated guarantees	Associated borrowing costs
2003	10,977.9	2,378.1	8,506.0	0.0	93.8
2004	13,403.7	2,122.6	11,751.0	-0.0	-469.9
2005	17,150.5	2,427.4	14,466.8	0.0	256.3
2006	19,274.9	2,316.0	16,386.6	207.5	364.8
2007	14,806.5	2,312.5	11,917.9	468.2	107.8
2008	13,880.4	948.2	11,118.8	1,793.3	20.1
2009	20,016.4	5,178.7	12,076.4	2,346.9	414.4
2010	30,132.5	11,031.3	16,472.8	2,291.3	337.1
2011	40,337.3	18,707.2	18,757.5	2,582.6	289.9
2012	63,145.8	32,009.1	26,665.3	3,828.4	643.1
2013	89,262.5	46,039.1	35,987.6	6,431.1	804.6

Source: "Bilten Javnih finansija br. 119" (Bulletin of Public Finances No. 119), (July 2014), Ministry of Finance of the Republic of Serbia, Belgrade

After the analysis of the structure of the overall transfers, the conclusion can be drawn that funds for wages and pensions are the only items whose amounts are individually larger than that for interests. Through this policy, our country has reached a situation where it has to introduce general austerity measures and raise taxes in order to finance the interests, while simultaneously making a growing deficit, which in turn requires additional borrowing, again raising the interest costs.³

A piece of information which also gives no cause for optimism is the structure of expenditure regarding interest, whose fluctuations is shown in Table 3.

Table 3. The structure of expenditure regarding interest from 2003 to 2013

Year	Interest payments for domestic loans	Interest payments for foreign loans	Interest payments for activated guarantees	Associated borrowing costs
2003	21.66%	77.48%	0.00%	0.85%
2004	15.84%	87.67%	0.00%	-3.51%
2005	14.15%	84.35%	0.00%	1.49%
2006	12.02%	85.02%	1.08%	1.89%
2007	15.62%	80.49%	3.16%	0.73%
2008	6.83%	80.10%	12.92%	0.14%
2009	25.87%	60.33%	11.72%	2.07%
2010	36.61%	54.67%	7.60%	1.12%
2011	46.38%	46.50%	6.40%	0.72%

³ <http://www.balkanmagazin.net/finansije/cid135-82249/kamate-potapaju-budzet>

2012	50.69%	42.23%	6.06%	1.02%
2013	51.58%	40.32%	7.20%	0.90%

Source: “Bilten Javnih finansija br. 119” (Bulletin of Public Finances No. 119), (July 2014), Ministry of Finance of the Republic of Serbia, Belgrade

As can be seen from Table 3, from 2003 to 2010 the largest share of the transfers regarding public debt interest were the transfers regarding foreign loan interest payments, which is a consequence of loans with international financial institutions for the funding of infrastructure projects. Their share was dominant in 2006, when it was as high as 85.02%. 2011 witnessed a balance between the shares of interest on foreign and domestic loans, while interest payments for domestic payments became dominant in the following years.

Upon observing the growth of certain categories in the public debt interest structure, the following conclusions can be made:

- Interest on domestic loans in the observed period has been on its lowest level in 2008 (948.2 million dinars), while it reached its maximum in 2013 (46.039 billion dinars). The average annual growth rate of interest on domestic debt in the analyzed period is 34.49%.
- The amount of transfers for interest on foreign loans has risen from 8.506 million dinars in 2003 to 35,987.6 million dinars in 2013 with the average annual growth rate of 15.52%. At the same time, it should be emphasized that the share of this category in the structure of the total amount of interests has been reduced.
- Interest payments for activated guarantees are considered a relatively new category in the structure of interest on the public debt of the Republic of Serbia, and it was monitored since 2006. This transfer category has, starting from 207.5 million dinars in 2006, reached its maximum in 2013 with 6,431 million dinars. The average annual increase of these expenditures is 63.32%, while their share in the general interest expenditure structure fluctuates between 1.08% in 2006 to 12.92% in 2008.
- The associated borrowing costs have a nearly negligible share in the interest payment structure.

Dynamic analysis, as one of the most frequently used methods in time series analysis, enables the monitoring of relative changes in the levels of the observed categories in two consecutive time periods. In this case, the best parameters are the chain indices which are shown in Table 4.

Table 4. Chain indices from 2003 to 2013

Year	Interest payment	Interest payments for domestic loans	Interest payments for foreign loans	Interest payments for activated guarantees	Associated borrowing costs
2003	-	-	-	-	-
2004	122.10	89.26	138.15	0	-500.96
2005	127.95	114.36	123.11	0	-54.54
2006	112.39	95.41	113.27	0	142.33
2007	76.82	99.85	72.73	225.64	29.55
2008	93.75	41.00	93.29	383.02	18.65
2009	144.21	546.16	108.61	130.87	2061.69
2010	150.54	213.01	136.40	97.63	81.35
2011	133.87	169.58	113.87	112.71	86.00
2012	156.54	171.11	142.16	148.24	221.84
2013	141.36	143.83	134.96	167.98	125.11

Source: “Bilten Javnih finansija br. 119” (Bulletin of Public Finances No. 119), (July 2014), Ministry of Finance of the Republic of Serbia, Belgrade calculations performed by author

Based on the chain index values presented in the table above, there is a noticeable increase of all kinds of interest transfers starting from 2009. During this year, interest transfers recorded an increase of 44.21% as compared to the previous year and this tendency of interest growth continued in the following years. The largest percentage of increase was noted in 2012, a result of a large increase in transfers for foreign loan interest payments (+42.16%). Transfers intended for domestic loan interest payments increased drastically in 2009, when they were 446.16% larger than those in the previous year. These transfers exhibit a constant increase in the years following the aforementioned two years. During the observed period, interest payments for activated guarantees exhibited a constant increase, apart from 2010, when they decreased 2.37%. Even though their percentage in the transfer structure of interest payments is smaller, associated borrowing costs exhibited large oscillations in their fluctuation. Their drastic increase was noted in 2009, when these expenditures increased 19 times in comparison with the previous year. These oscillations in the fluctuation of certain transfer categories influenced changes in the structure of the overall interest on the public debt of the Republic of Serbia (Table 5).

Table 5. Chain indices of the share of certain kinds of transfers in the interest structure from 2003 to 2013

Year	Interest payments for domestic loans	Interest payments for foreign loans	Interest payments for activated guarantees	Associated borrowing costs
2003	-	-	-	-
2004	73.10	113.15	0.00	-410.30
2005	89.38	96.22	0.00	-42.63
2006	84.89	100.79	0.00	126.65
2007	129.98	94.68	293.73	38.47

2008	43.74	99.52	408.58	19.89
2009	378.74	75.32	90.75	1429.68
2010	141.50	90.61	64.85	54.04
2011	126.68	85.06	84.20	64.24
2012	109.30	90.81	94.69	141.71
2013	101.75	95.47	118.83	88.51

Source: “Bilten Javnih finansija br. 119” (Bulletin of Public Finances No. 119), (July 2014), Ministry of Finance of the Republic of Serbia, Belgrade calculations performed by author

According to the value of chain indices shown in Table 4, the share of domestic loan interest payments in the structure of transfers has suddenly increased in 2009 (+278.74%) and has constantly been growing ever since. The share of foreign loan interest had its greatest relative increase in 2004, when it increased from 77.48% to 87.67%, i.e. it exhibited an increase of 13.15%. Since then (excluding 2006) the share of these interests has a negative tendency. The greatest decrease in the share of foreign loan interest was recorded in 2009. In 2008, the share of interest payments for activated guarantees in the structure of interest transfers exhibited an increase of 308.58% as compared to 2007. Since then, it had constantly decreased until 2013, when this kind of transfer starts increasing again, by 18.83%. The associated borrowing costs, as was previously emphasized, have a very small percentage in the structure of interest transfers, but it has to be emphasized that this category recorded very drastic oscillations in its fluctuation.

Upon analyzing the dynamics of interest payments of the Republic of Serbia, it was noted that 2009 was a key point in the fluctuation of these kinds of transfers. This is why the following analysis defines this year as a base for determining the dynamics of all kinds of interest payment transfers.

Table 6. Base indices of interest payment transfers

Year	Interest payment	Interest payments for domestic loans	Interest payments for foreign loans	Interest payments for activated guarantees	Associated borrowing costs
2003	54.84	45.92	70.43	0.00	22.64
2004	66.96	40.99	97.31	0.00	-113.39
2005	85.68	46.87	119.79	0.00	61.85
2006	96.30	44.72	135.69	8.84	88.03
2007	73.97	44.65	98.69	19.95	26.01
2008	69.35	18.31	92.07	76.41	4.85
2009	100.00	100.00	100.00	100.00	100.00
2010	150.54	213.01	136.40	97.63	81.35
2011	201.52	361.23	155.32	110.04	69.96
2012	315.47	618.09	220.81	163.13	155.19
2013	445.95	889.01	298.00	274.03	194.16

Source: “Bilten Javnih finansija br. 119” (Bulletin of Public Finances No. 119), (July 2014), Ministry of Finance of the Republic of Serbia, Belgrade calculations performed by author

Values of the base indices presented in Table 6 show the previously noticed fact about the character of 2009, which was at the same time the year when the consequences of the global economic and financial crisis started to be felt. The overall transfers for interest payments after 2009 recorded an obviously positive tendency, so they were even 345% larger in 2013 as compared to 2009. As far as the expenditures for interest on domestic loans are concerned, the situation is even more unfavorable. These expenditures have grown by 789% in 2013 as compared to 2009. The average annual growth rate of these expenditures from 2009 to 2013 is 72.67%, which is twice the average growth rate of these expenditures in the entire analyzed period (2003-2013), while from 2003 to 2008 these expenditures recorded a negative growth rate, i.e. an average annual decrease of 16.2%. The expenditures for interest on foreign loans were 29.57% lower in 2003 as compared to 2009, with an average annual growth rate of 5%. These expenditures recorded an increase of 198% in 2003 as compared to 2003, with an average yearly growth rate of 31.38%. This average annual increase is also twice as large as the one in the entire 2003-2013 period.

According to the Fiscal Strategy of the Ministry of Finance⁴, the interest debt will only increase until 2016, and especially in 2017, when many loans and eurobonds are due for payment. According to the data of the Ministry of Finance, in 2017 the interest rates will reach 140 billion dinars, which would be 2.9 percent of the GDP, according to the Ministry's projection. With the maturity of the principal, Serbia will spend 6.4 billion euros for debt payment in 2017. (Table 7)

Table 7. The projections of interest payments and their share in the GDP in 2016

	2014	2015	2016
GDP (billions of dinars)	4,007.8	4,292.1	4,583.7
Expenditure on interest (billions of dinars)	112.4	106.5	127.1
GDP %	2.8%	2.5%	2.8%

Source: "Fiscal strategy for 2014 with projections for 2015 and 2016", The Government of the Republic of Serbia, page 86

The goal of the fiscal policy for the following long-term period is for financing to be performed through the issuing of mostly dinar securities on the domestic market. However, the current situation implies that a greater portion of finances will have to be procured in the foreign financial market in the following period.

The fiscal challenges that the Republic of Serbia faces in the following period are quite comparable to the challenges of neighboring countries. It should be noted that many of them started fiscal consolidation with a public debt level of around 15% of the GDP, while the general government debt in Serbia has already reached 70% of the GDP.⁵ This makes it additionally difficult to reverse the growth tendency of public debt, and makes Serbia extremely vulnerable to potential shocks from the external surrounding.

⁴ <http://www.mfin.gov.rs/UserFiles/File/dokumenti/2013/Fiskalna%20strategija%202014.pdf>

⁵ http://fiskalniasvet.rs/images/izvestaji/pregled_uspesnih_fiskalnih_konsolidacija_u_evropi.pdf

Conclusion

The fluctuations in expenditure from 2003 to 2013, and especially from 2009 to 2013, significantly reduce the effects of savings achieved in other positions, and, since they are the most unproductive expenditure form, their reduction is a priority. Because of these tendencies in the structure of transfers for the public debt interest payment, it is necessary to focus the government activities towards covering the budget deficit. If the state gathers funds by issuing bonds to cover the budget deficit, it withdraws funds from the market. That would have anti-inflation effects, because there would be a tesaurization of savings. However, that reduces the money supply, which, even with unchanged demand, causes an imbalance in the financial market. The consequence of these activities is the increase in the interest rate and the cost of capital in the financial market, which also increases the cost of financing the operations of business enterprises.

Having in mind all of the above, the activities in the monetary policy of the Republic of Serbia should be focused on the efficient use of transfers with an economic purpose, in order to strengthen the economy, which would supply the potential budget income. This would alleviate the state of the budget deficit and avoid new loans, which would only additionally aggravate the economic conditions by increasing the cost of business enterprise operations or would lead to the „crowding out“ of new potential investments.

References

- “*Bilten Javnih finansija br. 119*” (*Bulletin of Public Finances No. 119*), (July 2014), Ministry of Finance of the Republic of Serbia, Belgrade.
- Đurović-Todorović J., Đorđević M. (2010) “*Javne finansije*”(Public Finances), Faculty of Economics, Niš.
- Đurović-Todorović J., Jovanović M., Krstić B. (2006)“*Monetarni i fiskalni menadžment*” (*Monetary and Fiscal Management*), Faculty of Economics, Niš.
- “Fiscal strategy for 2014 with projections for 2015 and 2016”, The Government of the Republic of Serbia. Available at <http://www.javnidug.gov.rs/upload/Strategija/Strategy/Fiscal%20Strategy%202014.pdf> [30.09.2014.]
- Kolačević S., Hreljac B., (2011) Javni dug kao ključna varijabla ostvarenja ciljeva ekonomske politike (Public Debt as the Key Variable in the Accomplishment of the Economic Policy Goals), *Economic Review*, 62 (3-4): 208-229.
- “*Konsolidovani bilans države u periodu 2005-2014. godine*” (*Consolidated Balance of the State from 2005 to 2014*), Macroeconomic and fiscal data, Ministry of Finance of the Republic of Serbia. Available at: <http://www.mfin.gov.rs/pages/article.php?id=7161> [28.09.2014.]
- Luković V. (2008) “*Ekonomija javnog sektora-javne finansije*”, Higher Education Institution for Applied Studies for Entrepreneurship, Belgrade.
- Marčetić M., Đurić O.(2012) Analiza duga Republike Srbije i njegove metodološke odrednice (The Analysis of the Debt of the Republic of Serbia and Its Methodological Guidelines), *Economy and Market Communication Review*, 2 (2): 274-291.
- “*Public Debt Management Strategy 2014 - 2016*”, Ministry of Finance – Public Debt Administration, Republic of Serbia.

http://fiskalnisavet.rs/images/izvestaji/pregled_uspesnih_fiskalnih_konsolidacija_u_evropi.pdf

<http://www.balkanmagazin.net/finansije/cid135-82249/kamate-potapaju-budzet>

Stiglitz J. (2000), *"Economics of the public sector"*, 3rd ed., W.W. Norton & Company, New York.

Samuelson P., Nordhaus W. (18th edition) *"Economics"*, Massachusetts Institute of Technology faculty, US.

The Bureau of Economic Analysis (2007-2013), *"Government Current Receipts and Expenditures"*, Survey of current business, U.S. Census Bureau Washington.

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SCIENTIFIC REVIEW ARTICLE
Received: August 23, 2014
Accepted: October 03, 2014

COMPLIANCE OF SERBIAN RAILWAYS REGULATIONS FOR PERFORMANCE OF DUTIES IN PUBLIC TRANSPORTATION WITH EUROPEAN UNION REGULATIONS

Abstract

Duties of the public passenger transport are still present on the railways, although the railway had long lost its monopoly on the transport market, and their presence made it difficult for beginning the process of reform, transition and restructuring of railways in relation to other modes of transport. Those instrument has been replaced by the establishment of a new way of financing unprofitable transport through the introduction of the obligation of public transport including rail transporter obligation to transport passengers and goods at established prices and special conditions for a fee determined by the difference between the cost of the state and justified the full cost. Baseline this instrument gives its effect on the economy of business traffic (transporters). Losses in business could be compensated from the state budget, but budget was insufficient and it was impeded the orderly and proper maintenance of infrastructure. In such circumstances the exploitation parameters infrastructure are exacerbated, and that effects led to the further weakening the competitive position of the railway. So, in a situation where the state compensates the losses from operations of railways it also provides funds for simple reproduction of the infrastructure, so that the final result of the railroad and shall bear is the total amount of these costs. However, the causal circuit costs, prices, competition, transport volume, revenue, profit, quality maintenance, a new reduction of competitiveness, are really important deteriorating market position of the railways.

Keywords – public service obligations, unprofitable transport, cost of transport, the regulations of the European Union.

JEL Classification: R40,R41

УСКЛАЂЕНОСТ ПРОПИСА ЗА ОБАВЉАЊЕ ОБАВЕЗЕ ЈАВНОГ ПРЕВОЗА ЖЕЛЕЗНИЦЕ СРБИЈЕ СА ПРОПИСИМА ЕВРОПСКЕ УНИЈЕ

Апстракт

Обавезе јавног превоза у путничком саобраћају су и данас присутне на железници иако је железница већ давно изгубила монополску позицију на

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транспортном тржишту, и њихова присутност отежавала је започињање процеса реформи, транзиције и реструктурирања железнице у односу на друге видове саобраћаја. Овај инструмент, замењен је успостављањем новог начина финансирања нерентабилних превоза кроз увођење Обавезе јавног превоза што подразумева обавезу железничког превозника да превезе путнике и робу по утврђеним ценама и посебним условима уз надокнаду разлике између тако утврђене цене од стране државе и оправдане пуне цене коштања. Основну црту овом инструменту даје његово деловање на економију пословања саобраћаја (транспортера). Губици у пословању надокнађивани су из буџета државе, били су недовољни и онемогућавали су уредно и квалитетно одржавање инфраструктуре. У таквим околностима експлоатациони параметри инфраструктуре су погоршавани, а ефекти тога су водили ка даљем слабљењу конкурентске позиције железнице. Дакле, у ситуацији када држава надокнађује губитке из пословања железнице она обезбеђује и део средстава за просту репродукцију инфраструктуре, тако да у коначном резултату железница и не сноси укупан износ тих трошкова. Међутим, узрочно последични круг трошкова, цена, конкурентности, обима превоза, прихода, губитака, неквалитетног одржавања, новог умањења конкурентности, реално битно погоршава тржишну позицију железнице.

Кључне речи – обавеза јавног превоза, нерентабилни превози, цена коштања превоза, прописи Европске уније

Introduction

One of the reasons that creates a need for regulation of the transport market is the existence of general interest for the functioning of the transport market. In the public interest, except for the matters of general public importance and except the possible questions regarding on traffic system, for example, setting up transportation security as a problem of particular public interest. “The public interest depends on decision of the political decision-makers, who declare public interest as question of general importance”⁴. Separation of individual issues and making level questions of general interest, mainly involves pre-rendered appropriate political decision. Make a decision no matter how they are reflected in the general interest, are always changing the conditions of competition in the transport market.

Environmental protection is one of the important questions that arises as a matter of public interest. Privacy energy production and consumption is declared as a general interest in terms of supporting the largest possible share of own energy resources and the use of environmentally tolerant forms of energy in the performance of the transport sector. The development complies with the requirements and limitations of nature, involves correlation of economic and environmental policy at all levels of society and its integration with modern international trends.⁵

The new legal framework is provided services of general interest, including the railway sector important application of legislation and institutional arrangement for carrying

⁴ Božić V., Ćimović S. (2004), *Marketing logistika*, Ekonomski fakultet, Beograd.

⁵ Mihajlović D., Ilić B., & Simonović Z. (2013). Razvoj održive ekonomije prirodnih resursa u skladu sa ekološkim zahtevima, *Ekonomika*, 59 (4), 10-22.

out the obligations of public transport⁶. Regulation of the European Economic Commission (EEC) 1191/69 defines the rules according to which the Member States should act when it comes to public service obligations in rail and road transport and inland waterways. This regulation has defined a common procedure for financial compensation, the concept of a contract for public transport, which can be signed between the competent authorities in the Member State and the transport company that would provide adequate public services. Regulation 1191/69 is repealed in the adoption of the EU Regulation 1370/2007 which is a generalized use of contracts when an authority granted exclusive rights or compensation for the performance of public service obligations. The purpose of the Agreement is to publicly define the roles and responsibilities of different stakeholders (authorities in charge of traffic and transport operators). The Regulation defines the mandatory content of the contract. In order to ensure effective competition or classification of the roles and responsibilities of the duration of the contract is limited to 15 years for transport by rail and can be extended by 50 percent if the carrier provides significant resources in connection with the transportation of carrying out a defined contract.

The legal and institutional framework for the introduction of obligations of public transport according to the EU regulations in the railway sector

The obligation of public transport in the transport sector is requested by the competent authorities for the provision of public transport of general interest to the transporter, if it is taken into account own commercial interests, would not be served or not served to the same extent and under the same conditions without compensation. The transporter would not normally perform such transportation because it believes that the provision of such services is not commercially viable. New EU legislation and in particular Regulation 1370/2007/EZ which entered into force on December the 3rd, 2009, brought a new concept that is defined as a Public Service Obligation (PSO). Regulation in the European Union legislation has the force of a direct implementation in the Member States and its implementation is prohibited through domestic legislation. The main actors in the implementation of the PSO competent authorities and transporters. Agreement on PSO can be assigned to the transporter directly or through tenders. According to EU Regulation 1370/2007, public transportation means transportation of passengers of general economic interest that is being offered to the public on a non-discriminatory and continuous basis. Public service obligations are therefore mutual obligations of the competent authority that is responsible for the organization and management of public transport and the operator who is responsible for carrying out the transport. Obligations are described in a set of written contract documents⁷:

- The competent authority shall define the transport that should be made
- The operator carries out transportation in accordance with the agreed level of quality
- The operator receives an annual compensation in the form of a lump sum that is defined in the Agreement on public transport.
- Every year, the competent authority and the carrier harmonized development services.

⁶ CER: EURAILPRESS (2008). *Reforming Europe railway*.

⁷ Hall D. (1998). *Restructuring and Privatisation in the Public Utilities Europe*, International Labour Office ILO, Geneva.

Implementation of the obligations of public transport in passenger traffic on the example of France French National Railways (SNCF) have been given as a monopoly for the performance of rail passenger transport in France. Regions are not able to invite tenders to get the other service providers except SNCF. Law of the SRU (Solidarité et Rénovation Urbaines) which is proclaimed in December 2000, planned transfer of responsibilities from the state to the regions in terms of the performance of the railway passenger traffic. Implementation of such decentralization policy has given the regions the power to make decisions about new offers⁸. The state budget is transferred to the regions (in 22 regions). Each region and SNCF had to negotiate and sign an agreement that describes transport, organization and financing of transportation. The first agreements were signed for a period of not less than 5 years. From the 2002, regional, local and suburban passenger transportation by rail define, organize and finance the 22 regional governments of France where the state has awarded this task. Transfer to the region proved to be a commercial success. In each region, the volume of traffic has increased by almost 10% a year, rolling stock almost everywhere rebuilt or new. In 2005, the regions have paid 2.7 billion euros to SNCF in the performance of regional rail transport and investment in rolling stock. When the term of the contract expires, the region has the right to claim ownership of the rolling stock, as it is entirely financed their purchase. The next problem was the issue of the condition and capacity of rail infrastructure in the region.

Many regions have sought control of the National Railway infrastructure (RFF) and the State to consider their own needs for the renewal of regional rail infrastructure and to provide the necessary funds. Contracts on the obligation of public transportation are such that SNCF maintains income and an interest in business development. But in the case of regions wishing to develop specific commercial policies to specific groups of customers, they increase their contribution to the SNCF. Each competent authority requires justification for financial compensation to be provided in exchange for passengers. SNCF has for each region to prepare a dedicated and unified account, as defined by the Government of France. Account includes railway and bus regional transport performed by SNCF.

Contracting obligations of public transport by Serbian Railways

The legal and institutional framework for the introduction of public service obligations in rail passenger transport in the Republic of Serbia is based on European regulations in the field of rail transport, which regulates the manner and conditions of:

1. Railway Law (“Off. Gazette of RS” No. 45/ 13)
2. Regulation on the methodology for calculating the full reasonable cost of transport (“Official Gazette of the Republic of Serbia “ No. 76 /2009) Guidelines on the contract obligations of public rail transport (“Off. Gazette” 58/2010)
3. Ordinance on the conditions and procedure for the exercise of remuneration for performing mandatory public rail transport (“Off. Gazette” 58/2010).

On harmonizing the national legislation with the EU legislation is Regulation 1370/2007 EU (effective from 3.12.2009) that defines the legal and institutional obligation to perform under the contract of public transport on public transport.

⁸ Pop-Lazić J., Bošković B. (2009). Contracting of public service obligation in railway transport – the czech example, *Proceedings of II International Scientific Conference New traffic and telecommunication Horizont*, Doboј, Serbian Republic.

Law on Railways (“Off. Gazette » 45/13) created an institutional framework for the establishment of a mechanism of financing public service obligations (PSO). This system of financial compensation to the Purchaser transport (Government of the Republic of Serbia or local government) compensate the railroad companies performing socially desirable transportation that are unprofitable, or that the carrier which establishes the obligation of public transportation make up the difference between the observed prices and reasonable full cost of transport. The Government of the Republic of Serbia is prescribed and adopted the Regulation on the methodology for determining reasonable full cost of transport (Official Gazette 76/2009). One of the reasons for the proposal and adoption of the Regulation is based on the need for harmonization of legislation with EU directives (2001/12/EC, 2001/13/EC, 2001/14/EC, 2004/49/EC and 2004/51/EC) and Regulation 1370/2007 EC (“the PSO Regulation”) as the new legal framework, which came into force on 2009⁹. The adoption of this regulation has a significant impact on the process of restructuring at “Serbian Railways”, primarily through the rationalization of transport services that the transporter provides. There are a number of tracks and trains that transport relations are not economically justified, but social justification exists. The main objectives of the new concept are to improve the efficiency of the railway system of the Republic of Serbia, its integration in the market rail system. Law on Railways (“Off. Gazette » 45/13) defines the type of rail transport can be considered as the transport of general interest, and shall be performed according to a published timetable: Railway transport of general interest: Public transport - on the territory of the local government; suburban transport - in the wider area; regional transport - the area of a region, or territory of the Autonomous Province; long-distance transport - between the two local governments in long-distance and international transportation. Criteria for determining the liability of public transport are:

- The existence of general interest;
- Availability of other means of transportation and
- The cost of replacing the rail transport by other means of transport.

The rights, obligations and responsibilities of rail carriers and the competent authority in relation to the obligation of public transport are regulated by the contract obligations of public transport. Public service obligations aimed at determining the maximum tariffs for all passengers or for certain categories of travelers may also be governed by the general rules. The competent authority shall provide the Train Operator compensation for the obligation of public transport the amount of net financial results, positive or negative, for costs incurred and revenues generated in accordance with the tariff obligations established general rules in a way that prevents the payment of excessive compensation for the obligation of public transport.

Compensation for public service obligations for contracts concluded on the obligation of public transport or general rules, must be calculated in accordance with the rules for calculating the amount of compensation for the obligation of public transport, prescribed by the Government. Agreement on the obligations of public transport and general contain provisions:

1. clearly define the obligations of rail transporters relating to the obligation of public transport, as well as the geographic area to which the obligation relates;
2. determine the parameters which are calculated by the amount of compensation for the obligation of public transport, taking into account the portion of income that keeps the rail carrier and appropriate tax;

⁹ Pravilnik o uslovima i postupku za ostvarivanje nadoknade za obavljanje utvrdene obaveze javnog prevoza u železničkom saobraćaju, *Sl. glasnik RS*, 58/ 2010.

3. Allocation of costs related to the obligation of public transport, which may include staff costs, energy costs of infrastructure, maintenance and repair of rolling stock and installations necessary for the commitment of public transport, fixed costs regulates the division of revenue from ticket sales, and other income Train Operator may keep it, pay it to the relevant authority, or may be split between them;
4. determines the duration of the contract on the obligation of public transport;
5. establish quality requirements that rail carrier must provide defines the obligations of rail carriers to report to the competent authority on the implementation of contractual obligations, including the manner and schedule of reporting, the report form prescribed by the Train Operator shall submit to the competent authority;
6. define the consequences of default or failure of performance of contractual obligations and
7. establishes the procedure for amending the agreement.

Agreement on the obligation of public transport can be assigned: on the basis of a court decision on the immediate award of the obligation of public transport and on the basis of open competition, open to all railway operators, respecting the principles of transparency and non-discrimination, which may, upon submission of bids and possible previous elections involve negotiations in accordance with these principles in order to determine how best to meet the specific or complex requirements. Method of awarding the obligation of public transport on the public competition is prescribed by the state and the proposal by the Directorate of Railways. Funds for the reimbursement obligations of public transport operators provided in the budget of the Republic of Serbia, in the autonomous province and the local government budget. Train Operators are obliged to keep separate accounting records of the use of the funds received under the conditions prescribed by the Railways, the methodology and the Regulations on the use of funds intended for the performance of public service obligations under the Treaty (PSO). The methodology for calculating fees for PSO, is determined based on the accounting records and the reports of the ad “Serbian Railways”. The purpose of this document is to provide a model that reflects the cost structure and enable to calculate the costs of different types of transport. Regulation on the methodology for calculating the full cost of transport (PSO) (Official Gazette 76/2009) is a document that defines the model or the method of calculating the cost of different types of transport (passenger and freight) and the method of allocation to individual transport relations based on the proportion of traffic on these routes (train km)¹⁰. The document set out the principles of distribution as well as recommendations. Rolling km is the staging, or the key to the distribution, which accounting costs directly associated with the level of transport. After the adoption of the Regulation on the methodology PSO passed the Ordinance on the conditions and procedure for the exercise of remuneration for performing mandatory public rail transport (“Off. Gazette of RS” 58/2010). This Regulation lays down the conditions and procedure for obtaining compensation for performing mandatory public rail transport. Compensation for the mandatory public transport, in terms of the regulations, are financial assets that are carrier approved budget funds during the period of implementation of the obligations of public transport or in connection with that period, which is recognized for the difference between the observed prices of transportation and justified full cost of transport. The transporter, which is assigned

¹⁰ Regulation No 1370/2007 EU on public passenger transport services by rail and by road and repealing Council regulations (No1191/69 and 1107/70), OJ L 315, 2009.

public service obligations, submits a written request for reimbursement in accordance with the law regulating railroads. The request includes: information on the carrier, which is assigned public service obligations; public transport services; relationship; schedule and the amount of compensation. The carrier which was approved compensation concluded with the Ministry responsible for transport or local government, the contract governing the rights and obligations in carrying out public service obligations, in accordance with the law regulating railroads. Guidelines on the contract obligations of public rail transport (“Off. Gazette” 56/2010) prescribes the contents of the contract on the obligation of public rail transport. The contract contains the following elements: The objective of the contract, the period of the contract, the level of service quality of public transport; the method of calculation and payment, reporting obligations and the consequences of non-performance or negligent performance of contractual obligations.

Award of public transportation in accordance with the regulations of the European Union

Agreement on the obligation of public transportation in practice costs can be allocated to the first mode of transport, and by driving miles on individual tracks. The methodology for allocating transportation costs consist of the following steps: data for input; allocation of common costs to transport passengers and goods transport with the help of keys and the proposed allocation of global expenses to individual tracks to driving miles.

Accounting system ad “Serbian Railways” differs certain costs to transport passengers and goods transport. Using the so-called. keys that are already used for certain calculations - the cost allocation model that allows user to change the keys. There are three basic categories of costs that will be used for the distribution of keys on the passenger and freight transport. This specifically refers to the infrastructure costs shared by passenger and freight transport, especially the transport relating to the performance of public transport, as well as the cost of towing to be shared. This also applies to areas where the division between the passenger and freight transport is not clear.

Table1: The proposed distribution keys

Functional Categories	The proposed unit costs calculation
Infrastructure management	
1. Traffic management	train mile (KM)
2. Infrastructure	
a. Services	train mile (KM)
b. Maintenance, modernization, other	train mile (KM)
c. Overheads	train mile (KM)
d. Logistic costs for infrastructure	working hours of employees
e. Financial costs	working hours of employees
f. Amortization	train mile (KM)
g. Other	working hours of employees
Transport	
1. Staff on the train	
a. Train drivers on open line	working hours of employees
b. Staff	working hours of employees

c. Energy (electric)	train mile (км)
d. Energy (diesel)	train mile (км)
e. Energy (steam)	train mile (км)
f. Energy (EMV)	train mile (км)
g. Energy (DMV)	train mile (км)
h. Other running costs	train mile (км)
i. Maneuvers and preparations trains	train mile (км)
Transportation means	
1. Maintenance	
a. Locomotives (steam)	traveled distance train kilometer
b. Locomotives (electric)	traveled distance train kilometer
c. Locomotives (diesel)	traveled distance train kilometer
d. EMG	traveled distance train kilometer
e. DMG	traveled distance train kilometer
f. Passenger / freight car	traveled distance train kilometer
g. Amortization	train mile (км)
h. Other	train mile (км)
Financial and general expenses	
a. Overheads (directorate, Logistics)	working hours of employees
b. Transport logistic costs	working hours of employees
c. Finance	working hours of employees
d. Operating leases	train mile (км)
e. Amortization	train mile (км)
f. Other expenses	working hours of employees

Source: Methodology for the calculation of the full cost of transport (SPO) (Official Gazette 76/2009)

Exploitation coefficients

Rail freight exploitation ratio means the ratio between (1) operating costs of carriage of goods and operating expenses, net of amortization and plus share of the costs relating to the maneuver, maneuvering and fixtures, which bear the infrastructure manager, and (2) the net revenues transport goods. Operating expenses of carriage of goods consist of a locomotive personnel costs, maintenance costs of funds, the cost of energy for traction, costs of other transport staff, and administrative staff in freight transport and the cost of using the car under the Rules RIV.

Conclusion

The new regulatory framework for rail passenger sector by prescribing the obligation of public transport is meant to be in the area of subsidized services abolish monopoly, encouraging competition among operators who are interested in conducting this kind of transportation, and to introduce budget control, to achieve a higher quality of this type of transport with lower prices. The main objectives are to be achieved by the agreement on public transport can be conceived as follows: supply of operators clearly defined and limited package, definition of mutual responsibilities and roles of the parties, avoiding the third annual public budget constraints and promote medium-and long-term planning, improving the accountability of management, decision making and problem

solving, getting constant feedback on the performance of mutual obligations. The establishment of public transport in passenger traffic exposed to a completely new legal and economic concept, could be reached by one of the major goals of reform Serbian Railways. Bearing in mind the characteristics of Serbian railways, and the factors that influence the practical implementation of decisions of the regulatory framework for public transport can be observed following: Today in Serbia works only company for passengers and goods within ad “Serbian Railways” and the company engaged in the transport industry for power plants “Nikola Tesla”, which was licensed to transport. According to the size of the network, 3,809 km, belonging to medium-sized networks, which confirms that there are no other transporters (operators) that would be competitive, according to the number of train kilometers dominated by passenger traffic, but with a lesser degree of utilization of trains (fewer travel kilometers), the railway network is not present large volumes of traffic, and maintenance is not high, government subsidies are necessary to keep existing users of rail transport. It can be concluded that the conditions for the implementation of public passenger transport are not exists still, although there are legal requirements that are appropriate and that are in line with European Union regulations in this area.

References

- Božić V., Aćimović S.(2004). *Marketing logistika*, Ekonomski fakultet, Beograd.
- Mihajlović D., Ilić B., & Simonović Z (2013). Razvoj održive ekonomije prirodnih resursa u skladu sa ekološkim zahtevima, *Ekonomika*, 59 (4), 10-22.
- CER: EURAILPRESS (2008). *Reforming Europe railway*.
- Hall D. (1998). *Restructuring and Privatisation in the Public Utilities Europe*, International Labour Office ILO, Geneva.
- Pop-Lazić J., Bošković B. (2009). Contracting of public service obligation in railway transport – the czech example, *Proceedings of II International Scientific Conference New traffic and telecommunication Horizont*, Doboj, Serbian Republic.
- Pravilnik o uslovima i postupku za ostvarivanje nadoknade za obavljanje utvrđene obaveze javnog prevoza u železničkom saobraćaju, *Sl. glasnik RS*, 58/ 2010.
- Regulation No 1370/2007 EU on public passenger transport services by rail and by road and repealing Council regulations (No1191/69 and 1107/70), OJ L 315,2009.

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Народна библиотека Србије, Београд

338 (497,1)

ЕКОНОМИКА : Часопис за економску теорију
и праксу и друштвена питања / главни уредник
Драгољуб Симоновић. – Год. LX. бр. 4 (2014) -
Ниш (Максима Горког 5/36) : Друштво
економиста ЕКОНОМИКА, 2014 – (Ниш :
СПЕКТАР). – 284 стр. : 24 см.

Часопис излази четири пута годишње
ISSN 0350–137X = Економика
COBISS.SR-ID 26903

