

## SIGNIFICANCE OF INNOVATION IN SLOVAK REGIONS – ISSUES AND CHALLENGES

<sup>a</sup>MARCEL KORDOŠ, <sup>b</sup>EMÍLIA KRAJŇÁKOVÁ*Alexander Dubcek University in Trencin, Studentska 2, 911 50 Trencin, Slovak Republic**email: <sup>a</sup>marcel.kordos@tuni.sk, <sup>b</sup>emilia.krajnakova@tuni.sk*

This paper was supported by the Slovak Ministry of Education's Scientific grant agency VEGA: "The impact rate assessment of clusters on the development of regions in Slovak Republic". Project registration number: [Reg. No.: 1/0953/16]

**Abstract:** Innovation is an important improvement and development element in all areas of economic and social life, business environment as well as regional processes. By means of analysis, comparative analysis methods followed by logical deduction the main goal of this paper is to determine the priorities of Slovak Republic's innovation strategy and policy based on analysis of the status of Slovakia and its regions in the area of innovation within the European Union context. Slovak regional and innovation policies are acting as a main synergic issue coming out of EU innovation and regional policies interaction. Their parallel collaboration and positive effects have significant fallouts on regional development and limiting the regional discrepancies in Slovak regions.

**Keywords:** regional competitiveness enhancement, regional innovation strategy, technology and innovation, regional discrepancies.

### 1 Introduction and Theoretical Background

The role of innovation is to turn research results into new and better services and products in order to remain competitive on global market and improve the quality of life of Europe's citizens. Innovation is made possible by research and education. The EU would require at least one million more researchers in the next decade to reach the target of investing 3% of its GDP in R&D by 2020 (Okřeglicka et al, 2015). The Innovation Union has proposed measures to complete the European Research Area. This means more coherence between European and national research policies, and removing obstacles to researchers' mobility. In education, the Commission supports projects to develop new curricula addressing innovation skills gaps. Cohesion policy also focuses on research and innovation. In more developed regions, at least 80% of the European Regional Development Fund (ERDF) resources are allocated to innovation, with the priorities being a low-carbon economy and competitive SMEs (Dubravská et al, 2015). EU regional policy aims at reducing disparities among levels of regional development and mitigating the slowing of less developed regions under Articles 158 and 160 of the Treaty on European Communities. One of the basic principles of the EU's functioning is the principle of solidarity, in terms of which economically stronger countries contributes to the weaker ones. A similar situation should be transferred from the European level to the national (Fojtíkova, 2016; Ivanova, Masarova, 2018; Cihelková, Hnát, 2008).

In 2011, the EU 2020 Territorial Agenda (Towards an Inclusive, Smart and Sustainable Europe of Diverse Regions) was adopted, building on the objectives of Europe 2020 Strategy and as a key development factor the territorial perspectives are to be implemented. In addition to identifying the most important territorial challenges for Europe, it also sets territorial development priorities, measures for their implementation (Varadzin, 2016; Malec, Abraham, 2016). The strategy serves as a guideline for regional development, supports the integration of territorial approach into different sectoral policies at different levels of government, and links the principles of territorial cohesion with the Europe 2020 objectives (Zadravilova, 2016; Machkova, Sato, 2017). Priorities include support for polycentric and balanced territorial development; promoting integrated development in cities, rural and specific regions; promoting integrated development in cities, rural and specific regions; ensuring the global competitiveness of regions, based on a strong local economy; improving the territorial connectivity for individuals, communities and businesses; and finally managing and interlinking the environmental, landscape and cultural values of regions (Haviernikova 2016; Vojtovič et al, 2016).

When understanding the relationship of innovation, space and agglomeration effects, there is a clear significance of knowledge-based entities concentration as the innovation carriers for the development of regions and formation of a competitive environment. In this context, we consider it necessary to explain the term of an innovative milieu (environment) that represents an incubator for innovation, while the innovation factor is not considered to be the enterprise by itself but an innovative environment resulting from interaction among businesses, institutions and labor. Its functional framework consists of various stakeholders (firms, research institutes, educational institutions, local or regional institutions being independent from decision-making processes), physical (endogenously available resources and infrastructure), non-material (know-how) and institutional (organizational management, institutions with decision making competencies) elements. An important starting point for mutual co-operation is the interaction form and learning culture, which is shaped in time and, depending on the changing behavior of actors it generates new solutions (Hamilton, Wepster, 2009; Drulák, Druláková, 2014). The actors through information exchange and the "learning" process reduce the uncertainties that arise from the permanent transformation of technological paradigms (Prno, 2008). Another understanding is provided by Buček (2006), who emphasizes the meaning of so-called external specific image, i.e., thick network of (informal) social relations within a territorial unit that stimulates innovation capabilities through synergic and collective learning processes. The formation of an innovative environment depends mainly on the socio-economic characteristics of regions (internal environment that determines the character and strategic behavior of entities) and external conditions (created by government through innovation and regional policy) (Mura, Orlikova, 2016; Rumpel et al, 2008).

Innovative systems are a reflection of innovative environment. The highlight on spatial dimension is contained in the definition. The innovative systems are generally composed of a geographically defined, administratively supported arrangement of innovative networks (companies) and institutions that respond regularly and strongly to each other to increase the innovative outcomes efficiency of individual companies in the region (Rehák, 2006). The part of innovative systems can be elements (institutions, participants) and relations that interact with each other in the process of production and diffusion as well as by using the new, economically beneficial knowledge. According to other authors (Ručinská, 2008; Taušer et al, 2015; Taušer, Čajka, 2014; Lipkova, Braga, 2016), as innovative systems elements are considered to be the entities of manufacturing (knowledge-based companies, industry clusters, etc.) and scientific (educational and research institutions working with the business environment in order to transfer new knowledge and technologies to business environment) sectors as well as the network of supporting institutions (governmental, counseling and innovation centers, chambers of commerce, financial bodies, industrial parks, agencies that help transfer the knowledge of science and research into practice, etc.).

Individual actors influence the innovative processes and collaboration being necessary for creation and operation of an innovative environment. Collaboration takes place in a number of ways. It is a support for innovative networks and cooperation, provision of knowledge and information for businesses to reduce uncertainty in their economic activities, a support for incentives structure that will ensure the profitability of innovation in long run and so on (Skokan 2004; Brakman, 2006). Innovative systems can be at three hierarchical levels. Firstly, it is a national level formed by a network of public and private sector institutions in the field of research, education, industry and others, whose activities and interactions initiate, support, modify and disseminate new technologies, and their activity determines the innovative performance of national companies (Balaz, 2010). Secondly, it is a regional level where the actors are influencing innovation behavior and an innovation environment at regional

and local level, taking into account regional specificities, links and interrelationships (Vojtovic, 2016). And finally, it's a sectoral level.

Regional systems have an important role in regional development, whereby a strong system is considered as the one having the interconnection linkage between knowledge production sources (universities, research institutions), intermediaries (public and private innovation services) and firms (Bucek, 2006).

## 2 Problem Formulation and Research Methodology

This paper will discuss how issues such as aggregate innovation index, the innovation strategy and the innovation policy of Slovak Republic; missing valid model for explaining innovative processes in Slovak regions; regional discrepancies; and finally the importance of innovation and its support in region are affecting the process where innovation is supposed to be the pillar of regional development in Slovakia.

By means of analysis, comparative analysis methods followed by logical deduction the main goal of this paper is to determine the priorities of Slovak Republic's innovation strategy and policy based on analysis of the status of Slovakia and its regions in the area of innovation within the European Union context. The purpose is to figure out the scenario how innovation as a crucial pillar of regional development in Slovakia is affecting the execution of Slovak regional and innovation practices implementation processes in order to enhance and reinforce the sustainable economic growth and to reduce the fallouts of deepening the regional discrepancies process in Slovak Republic.

## 3 Findings and Discussion

To deal with the issue of significance of innovation in Slovak regions aspects such as the aggregate innovation index, the innovation strategy and the innovation policy of Slovak Republic must be discussed. The current situation in Slovakia points out to the insufficient regional innovation structure and the prevailing weak pro-innovative culture. Scientific research capacities are concentrated mainly in the western part of Slovakia, where they form spatial groupings along the axis of Bratislava-Tmava-Piestany and Trenčín-Ilava-Žilina, then in Banská Bystrica, Zvolen, Prievidza, Nitra, Košice and Poprad. In the regions of southern and eastern Slovakia there is an absence of scientific research entities and centers. In all regions there is a persisting problem of poor science-research infrastructure with low linkage on education system and practice. Support centers are represented by a network of business innovation centers focusing on technology transfer, support for the development of innovative companies, building an innovative database on science, research and practice links, building contacts with scientific research institutions and relevant government and public authorities. Furthermore, there are Regional advisory and information centers whose role is to improve the conditions for the development of small and medium-sized enterprises, to promote socio-economic development and integration into European economic structures. The system is complemented by business incubators, first contact centers and a network of regional development agencies (Ministry of Economy SR, 2018 modified). An important role is played by SARIO - Slovak Agency for Investment and Trade Development in Bratislava within its regional offices.

According to the aggregate innovation index, Slovak regions can be classified into three categories (Buček, 2006). The first category consists of regions with companies with a high share of funding being invested in research and innovation activities and regions having a significant position within the country. In recent years, the region of Bratislava has been approaching this category, with the background of scientific and research institutions and the concentration of population with university education and the above average socio-economic status. The persistent problem is the insufficient intensity of cooperation

among the scientific and research and business environment. The Bratislava region is generally considered to be highly attractive in terms of foreign investments location and conditions for the emergence and diffusion of innovation. The second category includes the districts of Trnava, Nitra, Trenčín, Žilina, Banská Bystrica, Zvolen, Košice, Prešov and Humenné. Regional city district locations have a more favorable innovative environment for the development of a knowledge-based economy. The third group is represented by the rural regions of southern and eastern Slovakia with the absence of capacities and infrastructure for innovation development and innovative environment building. Innovation strategy and innovation policy of Slovak Republic create the conditions for establishment, functioning and development of innovative structures, innovative enterprises, cooperation and partnership of science and research institutions, educational institutions, enterprises and acquiring new markets in a sustainable environment, in order to secure effective contribution to society (Ministry of Economy SR, 2018). An innovation policy requires a differentiated approach that takes into account the regional needs and regional specificities.

The Innovation strategy of the SR for 2014-2020 (Ministry of Economy SR, 2018), based on the EU Innovation Strategy, is focused on priorities such as high-quality infrastructure and efficient system for innovation development (infrastructure is a necessary condition for stimulating and expanding of the third-generation innovation); high-quality human resources (highly educated and professional human resources are a prerequisite for innovative private sector activities, particularly in the area of SMEs); efficient tools for innovation (innovation should be an integral part of as many business activities as possible). We argue it is necessary to stimulate the emergence of non-financial instruments and interconnected programs at national and regional level.

The objectives of Innovation Policy of SR for 2014-2020 are aspects as follows: it is necessary to increase the competitiveness of entrepreneurial entities in compliance with the principles of sustainable development; development of employment - to increase the professional level and labor force flexibility; and at last it is the issue of regional development. In the future, innovation can be considered as one of the main tools for knowledge economy development, ensuring the high economic growth of SR in order to reach the level of the most advanced EU economies. Meeting the goals and priorities of Slovak Republic's Innovation Strategy by 2020 it will create the conditions for the positive development of innovation processes with economic and social projections, increasing the share of innovation in GDP formation from the current 8% to 25%, increasing the share of innovative enterprises from 13% to 50%, increasing the share of university and academic research on the so called business innovation from 1% to 5% and increasing competitiveness of SR in global economy environment (Ministry of Economy SR, 2018).

To meet these priorities can be achieved by stimulating in the field of science and research so that universities, Slovak Academy of Science and other development capacities, including SMEs, can actively be engaged in global R&D and participate in global innovative environment development in Slovak Republic. Innovation support for 2014-2020 is part of the Cohesion Policy programming documents on national level - Research and development and Competitiveness and economic growth. This direction in the field of innovation development will lead to the development of a knowledge-based economy, the growth of competitiveness and the improvement of current 47th ranking position of Slovak Republic within the World Economic Forum in 2016. The main strategic role how to maintain the competitiveness of Slovak Republic is the support and development of innovation and infrastructure.

Another major problem in terms of the significance of innovation in Slovak regions is that there is no universally valid model for explaining innovative processes in Slovak regions. Typology of regions in terms of innovation potential / assumptions based on socio-economic, geographic and

institutional criteria is needed to define certain problems in innovative processes for each type. Firstly, it is necessary to identify types of problematic regions and tools to support innovation. Based on the typology of regions and their innovation specificities, needs and options, it is then appropriate to choose a way to explore regional innovation, appropriate ways and indicators how to measure innovation (inputs, outputs, efficiency, potential).

The next step is the particular measurement of regional innovation. Regarding the fourth generation of indicators it is the most comprehensive, system-based approach to innovation. They measure not only the current state but also the process, development and, dynamics. Indicators of the fourth generation are to be understood as follows. The first element is knowledge – it is not about individual but composite indicators that denote investment being put in this area on one hand and performance on the other hand. Next, there are networks – they are composite indicators of formal networking based on contracts, agreements, strategic partnerships, intellectual property, licenses, as well as informal cooperation and knowledge exchange such as working relations among individuals within clusters. Finally, there are the conditions for innovation – economic demand, public policy environment, infrastructure conditions, social attitudes, cultural factors. System dynamics indicators describe the characteristics of innovation system and its dynamics, even with a view to forecasting wider economic developments (balanced scorecards, mapping of technological development, monitoring of demand changes, monitoring of global innovation frameworks, technological options, etc.) (Rehák, 2006; Ručinská, 2008; Ministry of Economy SR, 2018).

Measuring and evaluating the regional innovation potential, with innovative potential we understand the ability not only to create but also to use innovation (not only scientifically, but also broad social, not only in corporate environment but also institutional, organizational innovation, social innovation) in local conditions using local potential, requires a very complex and systemic approach. It is a dynamic process, not a static variable. Particularly challenging is the understanding and exploration / quantification / analysis of the process – the nature and depth – of relations among regional actors in the area of origin, dissemination and application of innovation. Research requires a quantitative and qualitative approach and information from a wide range of subjects. From the point of view of the areas of scientific research, we propose a multidimensional approach – to study not only the economic but also the geographical, demographic and social dimension of the origin, spread and application of innovation in regions.

One of the most serious significances of innovation in Slovak regions is to deal with the issue of regional discrepancies. The regional policy of Slovak Republic deals with large regional differences and prepares strategies, tools and programs for their mitigation. Slovakia is characterized by enormous regional disparities – the differences between regions. Large regional differentiation is given geographically, historically, culturally, economically, by ethnic, religious, ancient cultural and administrative centers. It is affected by external cultural influences, deliberate state interferences in regions (especially before 1989), and urbanization and industrialization level. Large differences are also in the geography of population, for example, north and east of Slovakia is typical for high population dynamics and on the contrary the south and southwest are territories with the opposite trend. Large differences are also in the educational level, in economic performance and also in social sphere. To remove and eliminate those discrepancies the European Cohesion Policy Instruments (Structural Funds) and the European Fund for Rural Development are currently being used in particular. Other tools are government grants and support to foreign and domestic investors for new investment within production, especially in regions with high unemployment rate.

The latest statistical data confirm that in Slovakia there is still the continuing phenomenon of rich, respectively, richer West and poor East. Within the western Slovakia, the "golden"

triangle Bratislava – Nitra – Trnava is also often mentioned. This corresponds to the current pan-European development concept called "Red Octopus". The settlement structure of Slovakia is characterized by a high degree of fragmentation (more than 2900), of which small (up to 1000 inhabitants) make up 67% and live in there 16% of population. Altogether 44% of population lives in rural settlements. On the other hand there are settlement centers that play the role of growth poles. These are bigger and bigger towns (over 50,000 inhabitants), where almost 25% of Slovaks live (Ministry of Economy SR, 2018). These centers support linkages among regions and ensure the transfer of growth effects between them. The Slovak advantage is a favorable position for inclusion in natural cross-border agglomerations. In the southwest of SR, it is the area of Vienna – Bratislava – Győr, in the north it is Silesia – Ostrava – Zilina – Martin, in the east – Košice – Prešov, with the connection to the west part of Ukraine and northeast of Hungary.

Within the Slovak Republic, the West-East and North-South gradient of development is manifested. This gradient of socio-economic development has a strong economic core, which is made up of the Bratislava region and its neighboring regions. Economic prosperity and directional investments are increasingly exacerbating the differences between this area and the economic performance of eastern and southern Slovakia. Growing disparities were most pronounced in the number of 9 profit-oriented organizations per 1000 inhabitants, labor productivity in industry and construction and GDP per capita. The development of these economic indicators has also been reflected in socio-economic sphere through relatively large disparities in unemployment rate and the number of completed apartments per 1000 inhabitants. The only economic indicator for balancing regional disparities is the number of traders per 1000 inhabitants (Eurostat Press Office, 2018).

To overcome the innovative regional disparities, it will be necessary to create a national innovation system with regional innovation structures (incubators, innovation centers, counseling centers and other elements) to bring innovation activities and support activities as close as possible to entrepreneurs and SMEs in particular. The innovation potential, the innovation climate and the activity of individual regions of SR with the exception of Bratislava city and Bratislava region are below average and substandard.

Problem areas that require a priority solution are of the following nature. These are issues like the low innovation climate in Slovak economy; the continuing resilience of existing structures and funding for science, research and innovation; insufficient attention paid to scientific and innovative education at all levels, both in the public and private sectors; insufficient intensity of international cooperation and low involvement of Slovak subjects and experts in shaping the European Research Area; insufficient presentation of significant international institutions of science, research and innovation in SR (European Commission, 2017; Ministry of Economy SR, 2018). Issues such as insufficiently developed infrastructure for science, research and innovation and the implementation of support programs at regional level are also addressed; the absence of a management system and coordination at regional level; low share of innovative enterprises in the total number of existing or emerging business entities.

If we assess the competitiveness of individual regions of Slovak Republic in terms of conditions for the development of science, research and innovation, then the regions can be divided into several basic groups, emphasizing that there is concentration of science and research and innovation within the centers of innovation, especially in regional district cities. These innovation centers should play an important role in the future in networking and clustering, which functioning can greatly influence the economic and social environment of regions, their attractiveness and competitiveness. Employment, education and business environment must become the main priority areas in relation to research, development, innovation – the knowledge economy.

The last discussed area of significance of innovation in Slovak regions is to determine the importance of innovation and its support in region, where the regional innovation strategies of individual regions of SR appear here as a supporting and implementation tool. The Regional Innovation Strategy puts innovation into focus as the main development factor of region's economy. The highest added value is hidden in products that are built on the use of R&D results, high-tech, modern technologies, or practices. It does not necessarily mean product innovation, but also processes and marketing practices. Innovation is therefore an important tool for increasing the competitiveness of companies. Competitiveness enhancement with comparison to a foreign country produces increased revenue from an enterprise perspective, and it primarily contributes to improving the economic situation of enterprises and has a secondary impact on the regional economy. Most regional companies are aware of the need to innovate their products, processes, or marketing practices, but in many cases they encounter difficulties in obtaining resources, inadequate supply from research institutions, or poor skill structure of human resources in the region. These shortcomings are to be neutralized by a comprehensive regional innovation strategy to develop innovation policy principles and to create a functional regional innovation support infrastructure. It is based on the assumption that the managed development of innovation in the region must be formed from the top of the regional authority.

An example of the implementation process in Slovak Republic is the development and implementation of a regional innovation strategy in the Trenčín region. The main objective of this project is to build a comprehensive innovation capacity of the region, which will result in an increasing performance of regional economy. The project aims to create an environment that fosters regional innovation potential, cooperation among existing institutions and organizations. It creates a strategic development framework that will enable businesses to introduce further innovations and apply R&D to business environment. A regional innovation strategy work out is only the first step to start the development of Trenčín region on the basis of innovation. However, it should be emphasized that this is a very important step for the development of new development projects funded by European structural policy tools. The strategy determines the direction for the next programming period and creates the prerequisites for further progress in the region.

#### 4 Conclusion and Further Implications

As conclusion we can say that the new approach to support innovation in Slovakia will help to ease the major challenges facing the Slovak innovation system, and at the same time, will mobilize innovation in all the relevant sectors through significantly stronger participation of all relevant partners at governmental and regional levels to support the development of Slovak regions. In this paper we have shown how innovation policies are acting as a main synergic issue coming out of EU innovation and regional policies interaction. Their parallel collaboration and positive effects have significant fallouts on regional development and limiting the regional discrepancies in Slovak regions. Finally we can summarize that innovation is a very difficult subject for public policy; it is at once a pervasive and elusive subject. It is pervasive since it entails both government and private investment; it is pervasive since it permeates all areas of public policy, from tax to labor, from telecoms to energy, from competition to industrial policy, from education to intellectual property, from immigration to health and agriculture, from supply-side to demand-side policies; and also, because it requires actions at the global, EU, national, regional and local levels.

Regarding the further vision associated with this kind of research as the follow up issues that will be necessary to be taken into consideration and be assessed are the areas such as the linkage of Innovation Union and cluster policies / clusters development in terms of technology advance and their impact on EU creative industries development; and Strategy 2020 assessment regarding its impact on EU economy competitiveness enhancement versus

the US economy in terms of the TTIP agreement (Transatlantic Trade and Investment Partnership). Regarding this context the next research will be also geared to assessing the impact of EU innovation strategy and EU Regional policy on Slovak industry policy and Slovak innovation agenda; as well as the fallout of EU Innovation policy on EU Energy policy along with implications on Slovak energy security.

#### Literature:

- Balaz, P.: World Economy - General Trends in its Development. *Ekonomicky casopis*. 2010, (58) 8, pp. 863-865.
- Brakman, S. [et al.]: *Nations and firms in the global economy - an introduction to international economics and business*. Cambridge: Cambridge University Press, 2006.
- Buček, M.: Úloha poznatkov a vedomostí v regionálnom rozvoji a ich výskum. In: Buček, M. et al. : *Regionálny rozvoj, novšie teoretické koncepcie*. Bratislava : Ekonóm, 2006.
- Cihelková, E., Hnát, P.: Future of the European Union within the new regionalism context [Buducnosť Evropské Unie v kontextu nového regionalizmu]. *Politická Ekonomie*, 2008, 56 (1), pp. 67-79.
- Mura, L., Orlikova, M.: Social Entrepreneurship and Social Enterprises: The Case of Slovakia. *Innovation Management, Entrepreneurship and Corporate Sustainability (IMECS 2016)*. 2016, pp. 495-505.
- Drulák, P., Druláková, R.: The richness of the liberal tradition in international relations: Karl Deutsch on political community and the European integration. *International Relations*, 2014, 28 (3), pp. 333-349. DOI: 10.1177/0047117814545951
- Eurostat Press Office: 2018. [online]. [cit.2018-05-27]. Retrieved from: <http://ec.europa.eu/eurostat>
- European Commission: 2018. [online]. [cit.2018-05-28]. Retrieved from: [http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=intro](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=intro), [http://ec.europa.eu/regional\\_policy/what/europe2020/index\\_sk.cfm](http://ec.europa.eu/regional_policy/what/europe2020/index_sk.cfm)
- Fojtikova, L.: Trends in the revealed comparative advantages of the EU member states. *Economic Annals-XXI*, 161(9-10), 2016, pp. 7-11. DOI: <https://doi.org/10.21003/ea.V161-02>
- Hamilton, L., Wepster, Ph. *The International Business Environment*. 2009. New York : Oxford University Press.
- Haviernikova, K.: The Identification and Classification of Risks in terms of Cluster Cooperation. *Proceedings of the 1st International Conference Contemporary Issues in Theory and Practice Of Management: CITPM 2016*. 2016, pp. 130-136.
- Ivanova, E., Masarova, J.: Performance evaluation of the Visegrad Group countries. *Economic Research-Ekonomska Istrazivanja*. 2018. 31(1), pp. 270-289. DOI: 10.1080/1331677X.2018.1429944
- Lipkova, L., Braga, D.: Measuring Commercialization Success of Innovations in the EU. *Marketing and Management of Innovations*, 2016, Issue: 4, pp. 15-30
- Machkova, H., Sato, A.: Analysis Of Competitiveness of Belgian Sugar Industry. *Listy Cukrovarnicke a Reparske*. 2017. 133(12), pp. 390-392
- Malec, L., Abraham, J.: Determinants of tourism industry in selected European countries: a smooth partial least squares approach. *Economic Research-Ekonomska Istrazivanja*. 2016. 29(1), pp. 66-84. DOI: 10.1080/1331677X.2016.1156554
- Ministry of Economy SR: Inovačná politika SR 2014-2020. 2018. [online]. [cit.2018-50-22]. Retrieved from: <http://www.economy.gov.sk/inovacie>
- Ministry of Economy SR: Inovačná stratégia SR na roky 2014 až 2020. 2018. [online]. [cit.2018-05-23]. Retrieved from: <http://www.enterpriseeuropenetwork.sk/>
- Okręglicka, M., Mynarzová, M., Kaňa, R.: Business process maturity in small and medium-sized enterprises [Dojrzałość procesów biznesowych w małych i średnich przedsiębiorstwach]. *Polish Journal of Management Studies*, 2015, 12 (1), pp. 121-131.
- Prno, I.: *Inovačná a investičná politika*. 1. vydanie., Bratislava: Merkury. 2008, p. 216
- Rehák, Š.: Regionálne dimenzie inováčných bariér: Od identifikovania k ich prekonaniu. *Acta regionalia et environmentalica*, 2006, 2/2006, pp. 50-53.

21. Ručinská, S.: Riadenie inovácií v regionálnom inovačnom systéme. *Transfer inovácií*. 2008, 12/2008
22. Rumpel, P., Slach, O., Koutský, J.: *Měkké faktory regionálního rozvoje*. 2008. Ostrava: Ostravská univerzita, 184 p.
23. Skokan, K.: *Konkurenceschopnost, inovace a klastry*. 2004. Ostrava: Repronis, 160 p.
24. Taušer, J., Arltová, M., Žamborský, P.: Czech exports and german GDP: A closer look. *Prague Economic Papers*. 2015, 24 (1), pp. 17-37.
25. Taušer, J., Čajka, R.: Hedging techniques in commodity risk management. *Agricultural Economics (Czech Republic)*. 2014, 60 (4), pp. 174-182.
26. Varadzin, F.: Global Public Goods and Integration. *Proceedings of the 3rd International Conference on European Integration 2016 (ICEI 2016)*. 2016. pp. 1052-1059
27. Vojtovic, S., Navickas, V., Gruzauskas, V.: Sustainable Business Development Process: The Case of the Food and Beverage Industry. *Advancing Research in Entrepreneurship in the Global Context*. 2016, pp. 1077-1089
28. Vojtovic, S.: The Impact of the Structural Funds on Competitiveness of Small and Medium-Sized Enterprises. *Journal of Competitiveness*. 2016, 8(4), pp. 30-45. DOI: 10.7441/joc.2016.04.02
29. Zadrazilova, D.: Current Trends in German Sugar Industry. *Listy Cukrovarnicke a Reparske*. 2016. 132(12), pp. 390-393

**Primary Paper Section: A**

**Secondary Paper Section: AH, AE**