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The Proceedings of the 17th International Joint Conference

Central and Eastern Europe in the Changing Business Environment

Prague, Czech Republic and Bratislava, Slovak Republic

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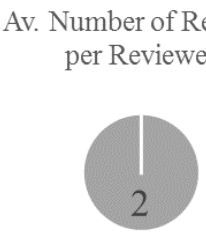

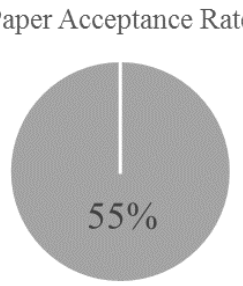

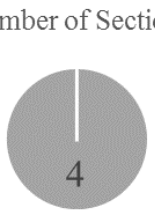

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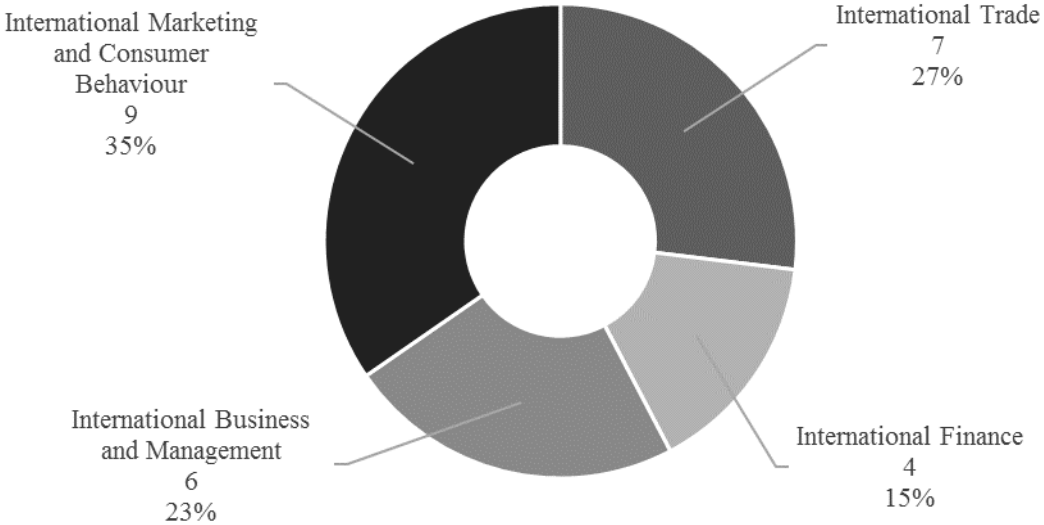

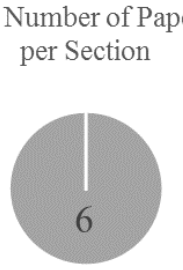

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Changing Motives towards Cars in the Younger Generation

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Abstract: The car market is fundamentally changing. Especially in the younger generation, the role and importance of cars is being questioned. There are new technological developments like e-mobility and autonomous cars as well as new business models such as Uber and car sharing offerings that may make purchasing a car obsolete for the younger target group. The intention of this paper is to identify the role and importance of cars in the younger target group and to explore current motives for buying a car. In order to identify the fundamental motives for purchasing a car, a psychological research study was conducted with bachelor's and master's degree students originating from several different countries. The research methods that were used include in-depth focus groups and one-on-one interviews. The research methodology is based on the psychological concept of "morphology". Morphological psychology leverages the "theory of Gestalt" to understand the underlying fundamental and often unconscious, motivating forces behind brand and product decisions (Ziems, Journal of Advertising Research, 2004). The research results contribute to identification of the importance of cars in the young generation and their relevant motives for buying a car today. The results have implications for marketers within the automotive industry as they consider potential new car concepts as well as for communications in the marketing of cars in the international context.

Keywords: car marketing, international marketing, motivational research, consumer behavior

JEL Classification codes: B30, F10

INTRODUCTION

The car industry is fundamentally changing. Therefore, it is under great pressure to develop technologically further in the areas of e-mobility, autonomous driving, new mobility and car sharing concepts (Sprick 2016). But this seems to be a rather general sentiment within the industry for the obligation to change rather than an evidential demand from consumers. Therefore, the purpose of this article is to identify the relevance of new developments within the automotive market, especially in the young generation. There is the hypothesis in several articles that the importance of cars for the younger target group is diminishing (Belgiawan et al. 2014) but there is only limited research, known to the authors, focused on an in-depth understanding of the role of cars in the young target group and their holistic motivations towards cars. Therefore, this research includes the following questions: Are cars still relevant in the life of the young target group, and if so, what are the fundamental motivations for

having one? What aspects of a car are important and what are the underlying motives of car ownership? In addition, the research briefly examined whether there are international differences in the relevance of a car and in the associated motivations.

1 LITERATURE REVIEW

Over the past few years, the automotive industry has been experiencing a variety of opportunities and challenges. For example, in 2015, U.S. auto sales experienced record growth while in other markets, particularly in developing countries, sales were flat or declined. Meanwhile automotive companies are investing a lot of time and money in new technologies and ideas that are or have the potential to change the industry. Examples include the connected car, a fully WiFi capable machine which may enable infotainment, apps, car to car communication, location and traffic services and also diagnostics and repair; the intelligent car, many of whose features are already present in today's cars, e.g. self-parking, self-breaking, engine and throttle controls, automatic accident avoidance features and adjustment of speed based on road conditions; and the intelligent car leads us to the emerging concept of a fully autonomous vehicles (PwC 2016 Auto Industry Trends). The automotive industry, like all others, is also affected by a wide variety of external environmental variables and trends. One key actor in the equation is the consumer, i.e. the product user or driver. It has long been critical for automotive experts and those in transport in general to understand when, how and why cars are used, or not. Traditionally, a car has been thought of as a means of transport; however, over time the situation has developed and the needs and wants of consumers have become more diverse. Researchers of course want to understand the motives for car use and ownership.

Most published studies have looked at demographic and/or economic variables and their respective influence. For example, Lave and Train (1979) studied the influence of purchase price, age and number of household occupants on car selection. In 1985, Mannering and Winston did an empirical analysis of household car ownership and utilization, and looked into the influence of purchase price and operating expenses. In a 2009 study, Bhat, Sen and Eluru examined the impacts of household demographics and vehicle characteristics, and gasoline prices on car ownership and use.

Steg et al. (2001, 2004) differentiate between three types of motives: instrumental, symbolic (or social) and affective. *Instrumental motives* relate to the convenience or lack thereof caused by using the car, i.e. things such as speed, safety, flexibility, etc. *Symbolic motives* relate to people's expressing themselves via their car, for example their personality, or social status.

Affective motives refer to expression of emotions related to the car or its use, for example, the joy of driving. While some earlier authors have emphasized the importance of social and affective motives (e.g. Flink 1975; Sachs 1983; Marsh and Collett 1986), there was not a lot of empirical evidence available on these types of motives up to the last decade, as they were not explicitly studied (Steg et al. 2004). A 2001 study by Steg et al. found that symbolic and affective motives are expressed more clearly when the aim of the research task has not been too clearly identified to the study participants. This infers that people may be unwilling to admit such things when directly asked. Recently, there have been several studies focused on symbolic and affective motivations associated with automobiles; examples include: psychosocial benefits associated with vehicle transport (Ellaway et al. 2003); teenagers and prestige gained through clothes and car ownership (Suitor et al. 2003); various instrumental and affective motives associated with commuting to work and also for leisure driving trips, and identification of various positive emotions such as excitement, a sense of freedom and lack of stress associated with the latter (Anable and Gatersleben 2005); personality stereotypes being associated with particular automotive brands (Fischer 2009); effect of premium versus common car ownership on attractiveness of both genders (Dunn and Searle 2010); materialistic individuals being uninterested in purchasing energy efficient automobiles (Gatersleben 2011); big and powerful automobiles perceived as success symbols and their owners enjoying a sense of enthusiasm and pride in the driving experience (Garling et al. 2013), among others (Sefara et al. 2015).

If we take a bigger picture view of the current situation, one can say that "Today's economies are dramatically changing, triggered by development in emerging markets, the accelerated rise of new technologies, sustainability policies, and changing consumer preferences around ownership. Digitization, increasing automation, and new business models have revolutionized other industries, and automotive will be no exception. These forces are giving rise to four disruptive technology-driven trends in the automotive sector: diverse mobility, autonomous driving, electrification, and connectivity" (Gao et al. 2016). While there is wide agreement that the automotive industry has been experiencing dramatic changes and is currently ready for major innovation, there is still no common view on what that will be or include, or how the situation will look in the next decade. Given the potential for significant industry change in the near future, the large size of the Millennial generation and their entrance into the workforce, as well as the conflicting trends on car use across the globe, the authors see a need to better understand the younger generation's current attitudes and motivations with respect to automobiles.

2 METHODOLOGY

In order to identify and gain an in-depth understanding of the overall importance of cars in the younger target group and to find the fundamental motives for having a car, the authors conducted some qualitative research. They utilized both focus-groups and one-on-one interviews as their research collection methods; the average length of each type of session was 1.5 hours. The research was conducted between November 2013 and January 2017. Overall, eight focus groups and five one-on-one interviews were conducted (n = 50). The authors elected to use university students enrolled in business-oriented bachelors and masters programs as they represent a subset of the millennial cohort that will soon be entering the workforce and thus acquiring the financial means to make a car purchase (in the near-term future). The research was conducted at the University of Economics, Prague. The age of the participants ranged from 19 to 26 years. The sample was equally female and male, and originated from both urban and suburban areas. The students originated from the following countries: Canada, China, Czech Republic, Finland, Germany, India, Italy, Mexico, Netherlands, Peru, Poland, Portugal, Russia, Slovakia, Sweden, Taiwan, Turkey, Ukraine, United Kingdom, USA, and Vietnam. The sample was thus very diverse in terms of nationality; however, it was homogenous in that participants are millennials currently enrolled in business-oriented bachelors and masters programs.

Tab. 1: Overview of the research sample

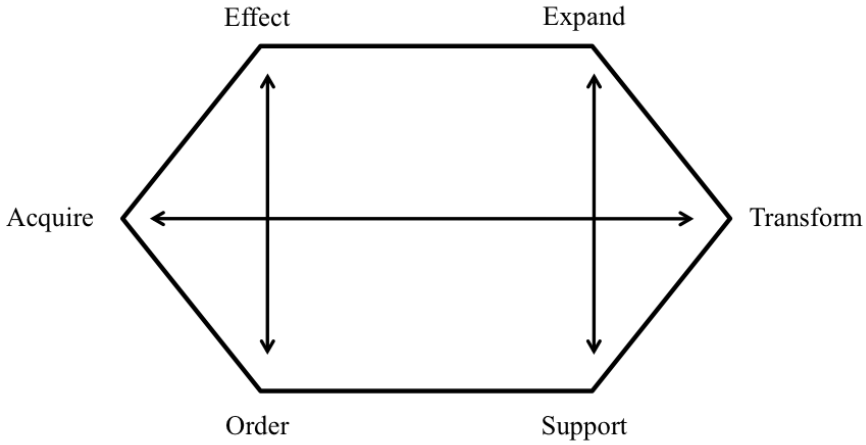
Sample	Age	Gender	Residence	Place of Origin
Bachelor and master degree students	19 - 26 years	50% male 50% female	70% urban 30% suburban	CA, CN, CZ, DE, FI, IN, IT, MX, NL, PE, PL, PT, RU, SK, SW, TK, TW, UA, UK, US, VN

Source: authors

The research concept behind this qualitative research was the psychological theory of "morphology". This is a psychological concept founded at the University of Cologne in the tradition of in-depth psychology; it incorporates aspects of Gestalt psychology, phenomenology and psychoanalysis (Ziems 2008; Fitzek 2008). The theory is based on psychological tensions that work together to influence and direct human experience and behavior (Black 2017). These tensions are uncovered through morphological intensive interviews (one-on-ones and focus groups), a unique qualitative methodology that encourages open and flexible discussions within the context of a closed conceptual framework (Lönneker 2007; Dammer & Szymkowiak 1998). The aim of this psychological approach is to go as deep as possible in the qualitative research in order to thoroughly understand the actual

motivation concerning a certain topic, like a product or a brand. This psychological approach is less about measuring (statistical representativeness) than thoroughly understanding the researched topic (psychological representativeness), (Grünewald 1998; Lönneker 2007). Similar to other qualitative research methodologies, interpretative analysis involves an iterative process to distil data into a common set of psychological themes or tensions (Dammer & Szymkowiak 1998). When combined, these psychological tensions provide a framework for systematically understanding the fundamental human needs (Melchers 1997). As a conceptual framework to summarize the research results, the morphological approach uses a so-called "hexagram" of six key dimensions that holistically describe the fundamental human needs. Within the conducted research, we used this model to show the psychological motivations for having a car in the young age group.

Fig. 1: Fundamental psychological dimensions in the "hexagram"



Source: Black 2014

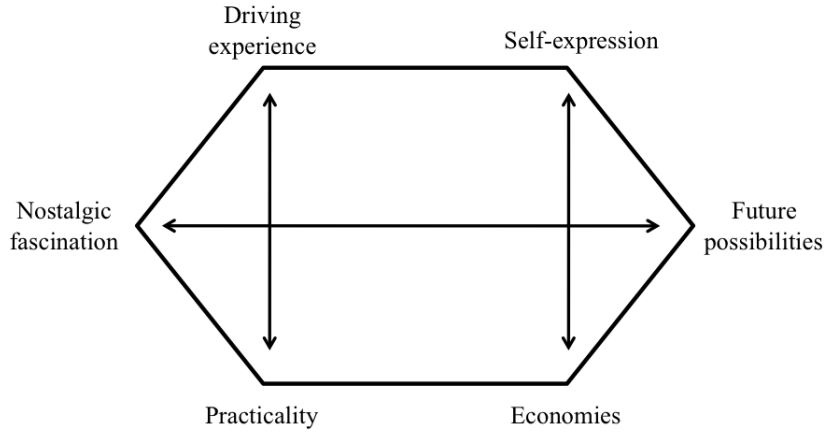
Black (2014) describes the six psychological dimensions as follows: *Acquire:* The human need for safety, continuity and the desire to hold on to what has been acquired. *Transform:* The human need for change, dynamics and the desire to abandon safety for movement. *Effect:* The human need for individual intent, personal preference and the desire to influence through action. *Order:* The human need for rules, regularity and the desire to adapt social expectations and structures. *Expand:* The human need for achievement, ideals and the desire to attain new levels of accomplishment. *Support:* The human need for skills, resources and understanding of our individual limits and limitations.

3 RESULTS

Overall description of the research and the role of cars

The atmosphere during the focus groups and interviews was very relaxed and harmonic. There was neither great excitement about the topic, nor a negative attitude or criticism. Everybody could easily participate in the topic, though the knowledge about cars differed. Thus, cars seem to be (still) an all-around and present topic, and have a reason to exist in the young target group *("Cars still have a primary role society."; "Cars are still important for many people."; "I like my car a lot."*). But particular knowledge about cars was not very existent, i.e. it was less than one might think of young people normally knowing about recent technological developments and trends (*"I don't know much about cars."*). Most of the students had a driving license in all the 21 explored countries, but not everybody actually drives regularly, especially if they live in a bigger city (*"I have a driving license but I do not drive much. In the city, public transport is sufficient."*). For most participants, a car no longer seems to be the most important product to have (*"I thought about buying a car, but then I spent it [my money] on a trip to Australia to do Work & Travel."*). But there were certain international differences about the role and importance of cars. In Northern Europe like Germany, the Netherlands and Scandinavia, cars now seem to be less important and fascinating (*"It's not a big deal for our generation."; "It's not so important like 10 to 20 years ago."*). In Italy, on the other hand, or other South European countries as well as Latin America and Central Europe, cars still have great importance for practical reasons but also as status symbols. In these regions especially, a car represents one of the most important products you can own and is thus a social status symbol (*"In Italy a car is still very important. It shows what you have achieved."; "You can impress with a car."*). After the identification of the overall relevance of cars in the young target group, the particular motives for having a car were explored and analyzed. The overall motivational dimensions can be summarized in the holistic research model of the hexagram below.

Fig. 2: Overall motivational dimensions for having a car



Source: authors

Practicality: The interviews were dominated by a down-to-earth reasonability and pragmatism. Cars still have their certain practical role for being more independent and mobile, but a great excitement and fascination is somehow missing. This was especially true in the Northern European countries like Germany and Scandinavia (*"I don't need a car anymore"; "I have a driving license, but I don't need a car right now"*). For that reason, a car seems to be more like a functional tool that helps you in everyday life (*"In Scandinavia you need a car, it is more like a tool to go from A to B."*). Another apparently relevant aspect in the young age group is the necessity that cars are easy to drive and park. Many stated that they feel insecure driving and especially parking because of their lack of experience (*"A parking assistant would be good."*).

Driving experience: Only if you ask openly about the general associations and images of a car that they have in mind do topics and aspects like freedom, independence and driving pleasure occur (*"I love to drive, especially with my friends."*). That sentiment was consistent over all groups (over time, age groups and countries). The experience of driving itself gives a feeling of relaxation and enjoyment. For this, music in the car plays a crucial role (*"I listen to very loud music in the car."; "We sing in the car."*). Driving is also an expression of personal freedom and independence. Many students were therefore looking forward to having their own car, especially in emerging markets (*"I was desperate to drive."*).

Future possibilities: As mentioned above, the knowledge about recent new technology was not that deep. Everybody is aware of the future developments like e-mobility and autonomous driving (*"The Google car"; "the iCar of Apple"*) but there are no individual experiences or certain information about it. It was interesting to note that the interviewed even seemed to be quite hesitating towards new technologies; this is rather unexpected given such a young sample (*"There are still safety issues."; "I am not sure if it is safe."; "It's a bit scary."*). And

they want to keep the pleasure of actual driving (*"I would not buy it, I want to enjoy driving by myself."*). What was very noticeable in the research are new ways of being mobile, such as new car sharing providers (like Uber, BlaBlaCar and other car sharing applications or providers on Facebook). These seem to be very relevant in their current life stage (*"Car sharing is a great idea."; "I use it a lot."; "My friends and I use Uber a lot when we go out late at night and public transport has already stopped or it is very infrequent. It can save us an hour or more and it's very cheap when we split it among us."*). Interestingly, also the topic of environmental aspects was not directly mentioned. If it comes up, of course it is called an important aspect but apparently it is not at the top of the target group's mind. All research participants were impressed by the car manufacturer and brand Tesla (*"What Tesla does is impressive."*). It can stand for the future concept of an attractive car: dynamic design, perceived as cool and electronic mobility. But for the moment, it is not accessible for the young group because of its price (*"At the moment, they are too expensive."; "In China, rich people more frequently have a Tesla."*). Communications are also an area potentially impacted by future developments. Indeed, classical television is becoming less relevant in the young age group; rather they watch TV shows mostly online. Thus, communication channels that can reach the target group include online ads and online video ads, for example on YouTube and on social media in general or car blogs in particular (*"I know car commercials mostly from YouTube."; "I check out products on comparison sites and blogs."*).

Nostalgic fascination: In contrast to the described future changes, there is still a certain fascination about cars and having one of "your own" (*"My dream car is an Austin Martin."; "A Lamborghini is still my dream."*). These kinds of cars impressed via their beautiful, classical design and heritage (*"These are cars with a soul."; "I like Mini and Land Rover."*). It was stated that having their own car would rather be the case when they have the finances to buy it themselves. First, this was because many said that driving a car is great fun (especially with friends). And later in life, a car can (still) indicate that you are successful (especially, in Central Europe, Asia and Latin America and also still in the US, Scandinavia and Germany but less so). Known car brands give security and confidence in the decision to get a car.

Self-expression: In this context, a car can also be an expression of yourself, also in order to impress. The car should represent you and your lifestyle (*"My car is an expression of my personality."; "My car is a part of me."*). The car should suit you and your style. Therefore, the look and the design of the car is very important (*"The design of the car is most important to me."; "The car needs to have a great appearance."*). In this context, the car should be as

unique and individual as possible. Then, you can have an emotional bond with your car (*"I gave my car a name."*). Concerning this dimension of self-expression, the role of brands has some certain importance. There are particular brands that are preferred and are seen as attractive: BMW, Audi, Mercedes, Volvo and Lexus. Overall, German cars seem be of good reputation, and the car's country-of-origin plays a certain role (*"German cars are very good."; "People in my country like German cars."*). These brands give a feeling of confidence in having made the right decision because, in many countries, it is important what others think and say about the car (*"If in China others say that you bought the wrong car, you become very depressed."*).

Economies: However, right now, there are certain financial limitations (*"It's too expensive to have a car."; "My first association with cars is that they are expensive."*). Therefore, current aspects concerning a car are economical ones like the absolute price of a car, fuel consumption/fuel efficiency and maintenance costs (*"Fuel consumption is very important!"; "Gas is expensive."*). A car needs to be durable and reliable for Millennials. Overall, they want and need maximum value for the invested money. This also expresses again the pragmatic and down-to-earth attitude towards cars in the young age group.

4 CONCLUSIONS AND DISCUSSION

The conducted research identified certain motivational aspects and dimensions for cars in the young target group. These findings can offer possibilities to position a car brand, emphasizing certain aspects in the marketing communication or for the development of new product features and new mobility offerings, i.e. concepts. For example, concerning the relevance of **economic aspects:** Offering cars at a lower absolute price (below 10,000 €); offering alternative methods of financing (low leasing and financing rates), similar to a contract from a mobile communications provider. Also, low fuel consumption is important – with a hybrid engine or an electronic car in the future. Car brands have a certain importance in order to indicate reliability and trustfulness. Concerning **practicality**: Offering a solid and safe car concept that is simple and affordable but is also good quality and reliable (offering low maintenance costs). It is important to have enough space, less so for transportation than to drive with friends and enjoy the experience. **Driving experience:** The car should be fun to drive. Therefore, a solid engine is important, and the car should be big enough to drive with friends; a contemporary music and entertainment system is also important. For this, there is a desire to have connectivity with mobile devices. Also, having an easy to use navigation and car control system is desired (i.e. it should be more digital like mobile devices and be like

using an app). **Future possibilities:** Connectivity with mobiles devices and the Internet (despite safety concerns) is important. The car should be fluently connected with the youth's life. It would be interesting for the young target group to control the car by just talking to it (e.g. simple voice control). Also, for marketing communications, the brands and manufacturers should use new media possibilities. In particular, YouTube is a very important channel for online video ads (that can go viral) as well as social media like Facebook, Instagram and Snapchat. It was indicated that Facebook is losing relevance. **Self-expression:** Easy connection of mobile apps with the car is important. This will also support the aspect of "self-expression" and individual styles. Therefore, possibilities to individualize are of interest, e.g. a car as an accessory, expressing one's personal style and life-concept. To enable this, the following are of interest: a larger variety of colors, features and additional "little" personal features relevant for the youth's life context (e.g. more drinks holders and mobile connections in the back of the car). **Nostalgic fascination:** Together with new possibilities and technical features, a car has to look authentic, and have a beautiful and timeless car design like Mini or Fiat 500. The country-of-origin of the car brand also plays a role with the young target group.

Of course, the conducted research has some particular limitations and thus invites the potential for future research, for example to measure the importance and identified motivational dimensions with quantitative research as a validation of the identified motivations relevant to having and using a car. There is also the option to broaden the sample size to further identify international differences. With the many upcoming changes in technology, it would also be very germane to investigate the relevance of new technologies and test possible car features.

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"One Belt, One Road" Initiative – Opportunities, Risks and Consequences for Cooperation of CEE Countries with China

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Abstract: Along with the increasing weight in today's globalized world economy, China has strengthened its global influence. At the same time, its position in international trade has started to become increasingly dominant. Exchanges with the European Union (EU) are also becoming more and more under the control of China. As part of a long-term strategy in the region, China initiated several projects concerning the cooperation in science, education, construction and infrastructure. These projects will enable it to pursue its own comparative advantages in the future. China is also extensively active in CEE region, which stems namely from "One belt, one road" (OBOR) initiative that was launched by the government at the end of 2013. Since 2012, it attends regular summits with 16 CEE countries (so called "China-CEEC summits"). Cooperation of CEE countries with China within the scope of OBOR initiative brings about various opportunities for participating countries from this region, however, it should be noted that it also carries certain risks. This scientific paper critically assesses current participation of CEE countries in this initiative, and provides an overview of ongoing projects based on selected statistical data. Paper identifies most significant opportunities as well as economic risks for participating CEE countries.

Keywords: China, competitiveness, European union, international trade, OBOR, CEE

JEL Classification codes: F63, O11, F42

INTRODUCTION

A grandiose transformation of the world economy, which entered its next development stage in the first decade of the third millennium, was fully determined by the expansion of the new wave of globalization processes and their differentiated regional consequences. It brought a new potential for stimulation of economic growth and additional positive impacts, particularly in terms of labor productivity, reduction of unit costs, accelerated speed of innovation, modernization of production and consumption structures, improved access to capital or the growth of trade intensity. Nowadays, fundamental changes in international business that will change the situation on the global market are initiated in many ways by the Chinese economy. The aim of this paper is to thoroughly examine the impact of selected fragments of a long-term initiative OBOR, which aims to change international logistics networks and construct new transport routes, thus mobilizing the whole Eurasian economic potential and simultaneously creating a new operating space for further penetration of Chinese companies

in the EU area.[1] When examining these contexts, it should be borne in mind that they are part of thoroughly planned doctrine of China regarding its future global status. This fact has been confirmed by numerous studies (IMF 2017; Baláž et al. 2012), which indicate that the critical element in achieving its long-term progress is precisely the effective development strategy that generates functional symbiosis within the Chinese economy by linking internal comparative advantages of this country with developments in the global environment. Therefore, the newest development initiatives of China should be understood in this context. The authors are convinced that it will be mainly the foreign trade, which will be intensified and expanded by the realization of OBOR, and thus, its growth will be an important catalyst for the success of this initiative.

China aims to spend $40 billion a year to link Europe and Asia via roads, rail, and water (Xinhua 2016). Among the most important goals of OBOR are cutting of transport times for various goods by two-thirds and reduction of costs. The initiative is one of many examples of China using its massive reserves, pilled after years of trade surpluses, to extend its influence. Its important part is the expansion of the Asian Infrastructure Investment Bank (AIIB), which has been embraced by the West but questioned by the US due to undercutting of multilateral development efforts in the region (Djankov & Miner 2016). Current position of 16 CEE countries in that process is marginal, however, this state does not have to be final. The change can be initiated by the rise of Chinese FDI in the region, but also by successful implementation of economic reforms by CEE countries, which would undergo extensive internal structural changes and manage to adapt the overall functioning of their own economies in a timely manner. Above stated factors will determine not only whether newly created opportunities by OBOR will have complementary or substitution character for CEE countries, but also whether they will be effectively utilized.

1 LITERATURE REVIEW

Results of long-term research show that opinions of respected authorities on international economic expansion of China and resulting consequences for individual territories of the world vary widely. Seen in this context, consequences and risks that were revealed during conducted evaluations are then scrutinized, which ultimately has an impact on the strategic

[1] Analytical views of authors regarding covered subject matter are currently based on a set of direct and indirect findings and indications, which confirm that the whole process of strategic initiatives of the Chinese economy in the EU indicate that they are a part of a long-term development doctrine that China created in order to promote its economic and foreign trade interests. It should be noted that due to novelty nature of OBOR initiative, availability of sufficient amount of relevant data that would allow some form of quantification or econometric evaluations is yet relatively low.

moves of other countries. Whereas one group of experts generally regards China as the next world's dominant superpower (M. Jacques, P. Baláž, E. Tse, W. Zhang) that will replace the US, others believe (H. Hung, N. Roubini & S. Mihm, K. Rogoff) that it will be soon blocked out by its own internal economic discrepancies that may cause that China's decline will be as rapid as was its rise. Just as there are different approaches regarding expert assessment of the economic expansion of China, opinions of economists and politicians to China's most recent initiative of global scope (OBOR) also considerably differ. Whereas one group regards it as an opportunity to relaunch global economic growth (A. Merkel, H. Clark, B. Gates, D. Li), the second group maintains that China through implementation of this initiative seeks to further deepen the disagreements between the EU's member states. Furthermore, they also point to a low probability of successful execution of this initiative. According to them, OBOR might be *"hampered"* by military conflict, political instability, defaulted investments due to improper evaluations conducted in impact studies, and slowing economic growth of China (The Economist 2016; Financial Times 2016). Banking giant Goldman Sachs, consultant T. Miller, or economist I. Bremmer, highlight the fact that by means of OBOR, China tries to "export" its production surpluses (e.g. steel, cement, aluminum). An important source of expert knowledge about this initiative is also the publication *"China's One Belt One Road Initiative"* (2016), whose authors are T.W. Lim, K.H. Tseng & W.X. Lim. When it comes to Czech and Slovak authors, P. Baláž, J. Bejkovský, M. Slobodník L. Štěrbová and Z. Stuchlíková are the most pronounced experts who analyze China as such in the long-run. They also deal with issues of Chinese investments abroad and impacts of OBOR initiative.[2]

2 KEY FINDINGS

OBOR initiative was officially launched at the end of 2013 and it is also known as *"New Silk Road"* or *"21st Century Silk Road"* (Lim et al. 2016). It counts on participation of numerous Asian, Middle-Eastern, African as well as European countries and aims to support further development of not only economic, but also security and cultural cooperation among its currently approximately 65 participating countries (e.g. Belarus, Iran, India, Georgia, Thailand, Turkey, Poland, or Russia). Fig. 1 depicts projected route of OBOR initiative. The

[2] Authors of this scientific paper based quantitative analysis that is interpreted in this article on statistical information system, World Integrated Trade Solutions (WITS), compiled by the World Bank (WB). EUROSTAT data were used for the analysis of the trade between China and the EU. When examining FDI in CEE region, research by A. Éltető & Á. Szunomár, who deal with the long-term development and impact of Chinese investment in CEE region and V4 countries, served as valuable source of information. Subsequently their findings were confronted with data concerning Chinese FDI in the region provided by Bloomberg. Valuable sources of information and data were also Reuters and Xinhua agencies.

Administrator of the UNDP, H. Clark, considers OBOR as: *"... a vision for shared prosperity and economic cooperation among countries along the major economic corridors, which links China to the world"* (State Council of the People's Republic of China 2016a). If OBOR will be successfully carried out, Goldman Sachs believes that: *"It can create new markets for Chinese construction firms and capital goods manufacturers; support industries with excess capacity such as cement, steel and aluminum; promote the wider use of the renminbi; and increase China's political influence, specifically in Asia" (*Goldman Sachs 2016).

Within OBOR, $14.8 billion were directly invested by the Chinese companies only in 2015, which marks the growth of 18.2%, when compared with 2014. New contracts signed with foreign partners reached the value of $92.6 billion in the same year. (State Council of the People's Republic of China 2016b). Major Chinese state-owned enterprises are setting up departments specifically for OBOR in order to raise funds for related projects. Outlined linkages require identification of potential set of geopolitical shifts that OBOR brings into the world economy, and strategic movements, by which the EU and the governments of 16 CEE countries, try to respond to these shifts.

Fig. 1: Projected route of OBOR

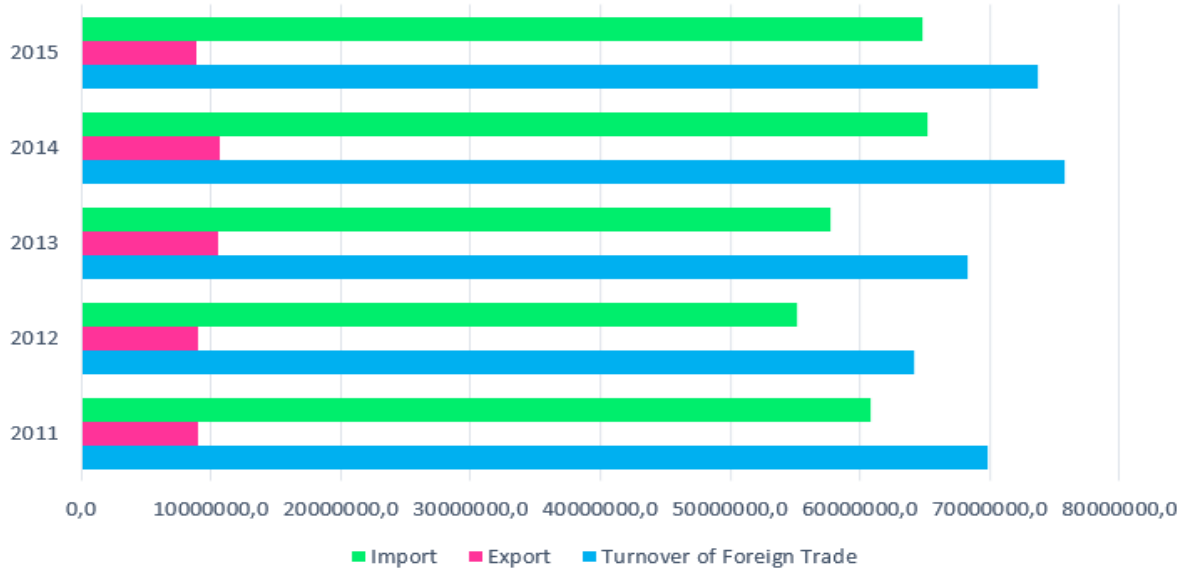
Source: Xinhua 2016

It is obvious that CEE countries are of crucial importance to China as well as its OBOR initiative, as all 16 CEE countries[3] are located within an intended route of this initiative. Eleven of CEE countries taking part in 16+1 platform are member countries of the EU, namely Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. By 2017, over 60 countries agreed to participate in OBOR. Therefore, CEE counties account for one quarter of all the participants, which makes this initiative practically impossible to materialize without their endorsement. They had an aggregate population of almost 120 million in 2015 (World Bank 2017). The cooperation between these countries and China was officially launched in 2012. In order to foster and facilitate mutual interactions, China created $10 billion credit line that was designed specifically for CEE countries, which are not the member states of the EU; $500 million investment cooperation fund, whose capital was planned to be increased in the future, and various other trade facilitation mechanisms, such as a currency swaps (Simurina 2014).

By 2017, five official summits were held between 16 CEE countries and China. The first summit, during which the ground for future collaboration between all the participants was established, was held in Warsaw in 2012. Since then, another 4 summits were held, namely in Bucharest, Belgrade, Suzhou and Riga. In 2016, during the summit in Riga (Latvia), "The Riga Declaration" was signed by the political representatives of all 17 countries. This declaration created a new landmark in their further cooperation as it aims to enhance cooperation way beyond traditional trade, namely to areas such as investment, infrastructure, research, tourism, education, environment protection or culture preservation. The sixth official summit will be held in Budapest in 2017. Apart from official summits, additional gatherings are on the schedule for 2017, with the most important ones being The China Investment Forum that will take place in the Czech Republic and The China-CEEC Investment and Trade Expo that will take place in the Chinese city Ningbo (The Secretariat for Cooperation between China and Central and Eastern European Countries 2017).

[3] 16 CEE countries are Albania, Bosnia and Herzegovina, Bulgaria, Croatia, The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia.

Graph 1: Foreign trade between 16 CEE countries and China (2011-2015; thousands of $)



Source: Processed by authors based on data from World Integrated Trade Solution 2017

Graph 1 illustrates foreign trade exchanges between CEE countries and China from 2011 to 2015. Turnover of foreign trade increased by approximately 5% in this period. Mutual foreign trade exchanges are characterized by a significant preponderance of imports to CEE countries over exports of these countries flowing to China. This creates a pressure on current accounts of balances of payments of all 16 CEE countries. In 2015, turnover of mutual trade accounted for $73.64 billion. Exports accounted for $8.87 billion while imports were $64.77 billion in the same year. All 16 countries run long-term trade deficits with China. For comparison, 28 member states of the EU cumulatively reached the turnover of foreign trade with China of $582.51 billion in 2015 (Eurostat, 2016). Judging from the volume of mutual trade between these economic entities, it is thus obvious that the EU has a greater importance in China's foreign trade than CEE countries. The total turnover of foreign trade of CEE countries with China accounted only for 12.64% of China's foreign trade turnover with 28 member states of the EU in 2015. Poland maintains the largest turnover of foreign trade with China from all CEE countries in the long-run. In 2015, the share of Poland on total foreign trade turnover of CEE countries with China was approximately 33%. Poland was followed by the Czech Republic with the share of 28.31%, Slovakia with 10.27%, Hungary with 8.93% and Romania with 5.14%. Together, these five countries accounted for over 85% of the overall turnover (World Integrated Trade Solution 2017).

When investments are concerned, there has been a significant increase of inflow of Chinese FDI to CEE countries since the beginning of the new millennium and even more so in the

period following 2008. In 2015, Chinese outbound investment to CEE countries accounted for over $5 billion, whereas investment of CEE countries in China was over $1.2 billion. The inflow of Chinese capital requires a feasible supporting infrastructure in the form of presence of banks and other financial institutions. Chinese banks are among the most important trade facilitators of such investment. Concerning the activities of Chinese banks in CEE region, so-called *"Big Four"* (Bank of China, Industrial and Commercial Bank of China, Agricultural Bank of China and China Construction Bank) are currently present only in four CEE countries, namely in the Czech Republic, Hungary, Poland and Serbia. Bank of China, which is currently the seventh largest bank globally, has operations in 4 CEE countries. Apart from operating in Hungary, Poland and the Czech Republic, the bank established a brand-new branch in Serbia at the beginning of 2017. Serbia is the first Balkan country in which the Bank of China established its presence and its aim to serve not only Balkan markets, but also increase trade relations with Greece. Industrial and Commercial Bank (ICBC) of China opened its first branch located in CEE region in Poland in 2012 and it yet remains the only ICBC branch in the region. So far, both China Construction Bank and Agricultural Bank of China do not have any branches, subsidiaries or representative offices in CEE region. Other financial mechanisms and institutions that foster cooperation within OBOR framework are AIIB, the Silk Road Fund, the Export-Import Bank of China and the Silk Road Chamber of International Commerce. Additionally, OBOR creates also stimuli for its participants, namely in the form of so-called "associated trade". The increase of the investment and business interactions of China with CEE region creates opportunities for the expansion of private Chinese companies in the region. For example, at the beginning of 2017, Alibaba announced its intention to build its first distribution and logistics center in Europe in Bulgaria, which participates in OBOR. Up until present day, Chinese investors have been much more focused on realization of mergers and acquisitions in Western Europe than in Central Europe. This situation is also visible in the overview of so-called "mega deals" that has been created and is being continuously updated by Bloomberg. It keeps a track on Chinese investments abroad that are valued $100 million or exceed this amount. From 2006 to the beginning of 2017, only Chinese investments flowing to Hungarian chemical industry and Polish renewable energy industry exceeded the threshold of $100 million. Bigger of these two investments was the acquisition of shares in Hungarian BorsodChem by Chinese Wanhua Industrial Group, for which the Chinese side of the contract paid $189 million in 2010 and additional $1.6 billion one year later, in 2011 (Bloomberg 2017).

Trade position of the EU on the Chinese market historically relied on trade in services and high technology, respectively on trade with goods that have been based on services and high technologies. However, fundamental changes gradually occur also in this area. Whereas China's share of total Asian exports of hi-tech goods accounted for as few as 9.4% in 2000, it was already 43.7% in 2014. In the same period, the Japanese share was reduced from 25.5% to 7.7%. Share of hi-tech products on total China's exports was 25.8% in 2015 (World Bank 2017). HSBC expects that more than half of world exports of high technology will originate from China by 2030 (HSBC 2014). China's competitiveness as well as ongoing intensification of various forms of its technology transfer, confirm significant strengthening of its position namely when exports of hi-tech products are concerned and this development is not only at the expense of the EU, but also at the expense of the US and Japan. This cannot be explained other than by China's systematic attempt to capitalize on its growing long-term investment in science and education and purposeful strategy of the promotion of science and research, which were supplemented by purchases of foreign patents and licenses. Subsequently, China translated all these efforts into successful commercial appreciation through its domestic companies. Eventually, this reflected in China's current as well as prospective "positioning" on the international markets, which may mean that the EU will lose a significant part of its ability to pay for Chinese imports in the future.

3 RESULTS AND CONCLUSIONS

The success of OBOR's implementation will depend on many factors, several of which are global, while others are of a regional scope. According to various prognoses, Chinese economy is expected to further expand (IMF 2017; World Bank 2017). While it is clear that even this economy will need to deal with many internal and international barriers, there is no doubt that it can handle new situations and comply with new challenges. It should be noted that this adaptation process has already started and is well under way.

An analysis of trade cooperation between CEE countries and China revealed that 16 CEE countries are currently a weaker partner in this cooperation. To marginal state of mutual cooperation in the case of Slovakia and the Czech Republic in the long-term points, for example, S. Slobodník (2016) who says that: *"the need for stronger and closer relations with China on both sides is more being discussed than actually realized"*. In relation to the Chinese investments in Slovakia, P. Baláž (2016a) points out that: *"Slovakia is currently not officially participating in OBOR initiative."* He also emphasizes that: *"the construction of broad-gauge railway through Slovakia, does not have economic sense for the Chinese side."*

This situation, according to P. Baláž (2016b), stems from the fact that the Chinese want to get into countries where they see vast business potential. Therefore, more meaningful for them is a high-speed railway through Teheran, Athens to Budapest and a track that runs through Russia. Analogous situation to that of the Czech Republic and Slovakia, is currently faced also by other CEE countries. In order to improve their bargaining position in relation to China, governments of individual countries of the region should recognize the need for mutual coordination and consultation that may help them to obtain more respect from the Chinese partner in the future.

Nevertheless, this cooperation undoubtedly creates major opportunities, which participating CEE countries could utilize provided that they would act in a coordinated manner and manage to eliminate highlighted risks stemming from their cooperation with China. The most important opportunities are facilitation of trade in goods that would result from the exchange of information between all 17 partner countries and speed up the detection of risk shipments. Another opportunity is the simplification of customs procedures. The rebuilding of the infrastructure corridors within the scope of OBOR initiative will enable significant time savings when it comes to the finalization of commercial transactions. The growing volume of imported goods by rail can also reduce transportation costs, which could potentially increase the competitiveness not only of Chinese goods in the CEE countries, but also of goods produced in 16 countries of the region. According to Financial Times, the costs of transport of containers by rail in 2016, were twice as high as the cost of transport by the sea (Kušnírová 2016).

As documented by yet relatively low trade turnover between CEE countries and China, huge trade deficits of CEE countries and low proliferation of Chinese investments in this region, there exists a vast potential for deepening of mutual cooperation between these economic entities. Presence of Chinese banks and other financial institutions in the region creates a ground for enhancement of bilateral and multilateral trade activities. It should be noted that given this situation, whether this cooperation would generate expected benefits for CEE countries and its entrepreneurial entities is only a matter of proper governance, planning and coordination between political representatives of all the CEE countries.

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The Environmental Behaviour of Consumers

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Abstract: The purchasing behaviour of contemporary consumers is a characteristic of an increased sensitivity towards environmentally friendly products and environmental behaviour of business entities. Consumer decision making is increasingly more influenced by product properties and parameters such as energy intensity, materials, environmental impact, toxicity, or operational demands and disposal options. Environmental behaviour of customers is defined as the selection of the product that meets the current requirements for environmental protection, its consumption, ecological and economic valuation.

Keywords: environmental awareness of consumers, customer environmental behaviour, environmentally oriented consumption

JEL Classification codes: M31, O13, Q56

INTRODUCTION

Nowadays, enterprises pursue various economic but also ecological objectives. Apart from the social pressure resulting from increasing consumption of non-renewable resources and from the damage to the environment, this fact is affected by the introduction of strict legislative measures, increasing price of primary raw materials and, last but not least, by changes in the environmental awareness of consumers. The rising environmental consumer awareness at the same time results in changes in the market behaviour of business entities. These changes are characteristic of the following trends: (1) environmental properties of products are becoming an increasingly distinct competitive factor, apart from the price and quality; (2) the market in environmental technologies is expanding, which is connected also with increasingly stricter environmental protection regulations; (3) consumers tend to prefer the firms that assume a responsible stance towards the environmental protection (producing environmentally friendly products, using new environment friendly technologies, and the like). Consumers can be expected increasingly often to require independent and demonstrable contributions of businesses not only to ecologically related issues but also to economic and social responsibility problems.

The very topic of consumer behaviour is broad and complex. It is therefore not our ambition to deal with all of its attributes. This paper aims to characterize those areas of consumer

behaviour that are significant with regard to its environmental aspects as well as economic effects. The focus is on consumer behaviour trends that reflect environmental phenomena and economic benefits. This stems from the assumption that consumer behaviour is not just about the purchase or consumption of products, but also post-purchase (post consumption) behaviour. Environmentally conscious consumers approach to products and their packaging with responsibility even after their consumption and remain aware of their burden to the environment (return of products past best before date or the repair of new ones and their reuse, waste sorting, full utilization of food consumption expiry dates, etc.), thus creating opportunities for improving environmental and economic efficiency and providing the basis for addressing the problems encountered.

1 ENVIRONMENTALLY ORIENTED BEHAVIOUR OF CONSUMERS

1.1 The starting points in environmentally oriented consumer behaviour

Consumer behaviour is a complex and dynamic phenomenon, reflected in the different definitions and approaches of individual authors to its understanding. Among them, credit is given to Engel, Blackwell and Miniard (1993), who defined consumer behaviour as acts towards acquisition, disposal or consumption of goods and services, including decision-making processes preceding or following them. According to Schiffman and Kanuka (2004), consumer behaviour is the kind of behaviour that is manifested in consumers' acquiring, purchasing, utilising, evaluating, and disposing of goods and services, which are expected to meet their needs. Consumer behaviour is a dynamic interaction between affection and cognition behaviour and the environment in which human beings conduct the exchange aspects of their lives (Peter and Olson 2005). The above definitions primarily stress the decision-making component and acts of exchange within the framework of consumer behaviour. The concept of consumer behaviour, however, is much broader. Richterová et al. (2015) defined consumer behaviour as the mental and social processes occurring:

1. Before the purchase itself (for example, awareness of the need, the shaping of attitude, evaluation of alternatives, selection of product, brand, or sales outlet);
2. During the purchase (for example, situation factors influencing purchase, i.e., purchasing behaviour);
3. After the purchase (after-purchase evaluation, dissonance, process of consumption).

According to Ham, Mrčela and Horvat (2016), consumer behaviour represents a process of obtaining and consuming products, services and ideas by a consumer unit. It also includes post-purchase processes encompassing evaluation and post-purchase behaviour.

Consumer behaviour as a dynamic phenomenon is shaped by several factors, including cultural, demographical, social, personal, psychological influences and variables. In particular, cultural influences represent a factor determining human behaviour and to a great extent also consumer behaviour. Thus, in consumer behaviour, several cultural trends are significantly reflected as, for example, changes in nutrition habits, hierarchy of values, health and environmental protection. Demographic variables – age, income, race, nationality, gender, and occupation – are characteristics that, by way of linkage, give rise to consumer groups displaying similar behaviour in their choice of specific products (Richterová et al. 2015). Consumer behaviour is also significantly influenced by social factors, for instance, family, reference groups, social role, and status. The family influence upon consumer behaviour is especially powerful. Children play an increasingly important role within the family and its consumer behaviour (Seiter 1993). Personal factors are yet another determinant of consumer behaviour. Consumer behaviour is preconditioned by lifestyle, economic situation and the human personality. An important role in consumer behaviour is also played by psychological factors. The individual, in connection with a purchase, goes through the consumer decision-making process, from the awareness of the need, through the decision to purchase, up to its implementation. Consumer decision making affects their value and attitude system, part of which is also its awareness.

1.2 Environment awareness and environmentally oriented consumer behaviour

Relationship with the environment is an important aspect of consumer behaviour. The purchasing behaviour of present-day consumers is characteristic of a higher sensitivity to environmentally friendly products and environmental behaviour of business entities. Purchasing decisions are more and more influenced by the properties and parameters of products, such as energy intensity, material, environmental impact, toxicity, requirements for the operation, and the disposal and/ or reuse option.

Consumer behaviour before, during and after the purchase of products that meet the current demands for environmental protection is referred to as environmental consumer behaviour. Its carrier is described as an environmentally oriented or green consumer. This segment is characterized by ignoring products that are dangerous to health and participate in the

destruction of the environment during their manufacture, use or disposal, or those which are a source of excess waste, etc. (Paco & Rapaso 2008).

The work of Dembkowski and Hanmer – Lloyd (1994) is based on two fundamental assumptions forming the environmentally oriented consumer behaviour: (1) environmental awareness is part of the consumer's value attitude system; (2) the consumer's buying decision is influenced by that very system.

Environmental awareness has become one of significant factors in the purchasing behaviour of consumers. Although the concept of environmental awareness is intuitively clear to most people, it is safe to conclude that there is no generally accepted definition, or even a clearly defined terminology (Ham, Mrčela & Horvát, 2016). Environmental awareness represents a component of the widespread value attitude system of the individual.

Cases where consumers express environmental awareness in relation to the purchase, consumption and possession of products may be defined as environmental awareness of consumers, which should be reflected in a higher environmentally oriented consumption. A concrete manifestation of environmental awareness and its transformation into environmental awareness and consumer purchasing behaviour is influenced by three groups of factors: (1) factors of environmental awareness; (2) factors of environmental consumption and (3) factors of purchasing decisions. Factors of environmental awareness include personal interests, perceptions of own responsibility, the significance of consumption from environmental viewpoint, awareness of the consequences of consumption, and perceived social pressure. Factors of environmental consumption represent the perceived environmental aspects of the product, consumer knowledge about the environment, perceived economic, social and psychological incentives and sanctions. The factors of purchasing decisions characterize the consideration of complementary and contradictory influences, situational requirements and barriers.

Environmental awareness may precede pro-environmental behaviour. However, even when people are environmentally aware, they do not necessarily behave in a pro-environmental manner. An environmentally aware consumer is not necessarily a green consumer – in order to become a green consumer, one must behave in a specific manner. The formulation is admissible that environmental awareness is operationalised through the form of environmentally motivated, i.e. pro-environmental behaviour (Ham, Mrčela & Horvát, 2016).

Consumer behaviour is not just about a purchase and/or consumption of products but also about their post-purchase (post-consumption) behaviour. This does not concern merely the consumers' level of satisfaction or dissatisfaction with the purchase (product) but also their

methods of handling the product, its packaging, and any resultant waste. In the course of the product consumption, and/or afterwards, there can arise requirements for the disposal of waste, scrapped or discarded product and package. This is the task that currently increases in significance due to environmental concerns, costs and scarcity of raw materials. A growing importance is attached to recycling options and to the possible reuse of packaging, which are increasingly important product attributes to many consumers. Sorting and collection of waste for recycling, and the reuse of packaging for different purposes represent one of the principles of sustainable consumer behaviour. Striving for sustainable consumption is a continuing trend in consumption and society towards the economic efficiency of business operations.

2 RESEARCH IN THE ENVIRONMENTAL BEHAVIOUR FACTORS OF SLOVAK CONSUMERS

We executed an empirical research survey, focused on the behaviour of Slovak consumers in terms of handling products and/or their packaging after purchase and/or consumption. The survey was conducted in the period from May to June 2016.

2.1 Methodology, objectives and hypotheses

The sample involved in this survey included 400 respondents, 51% (204) women and 49% (196) men, aged 15 to 65+ years (Table 1).

Table 1: Age structure of respondents (in years)

Age	Number	%
15-24	65	16.25
25-34	132	33
35-44	68	17
45-54	65	16.25
55-64	35	8.75
65+	35	8.75
Total	**400**	**100.0**

Source: Results of our quantitative survey

More than a half of all the respondents had secondary education (260; 65%); 120 respondents (30%) had university education; and 5% (20) respondents had primary education.

The majority (176) of respondents reported net monthly income of their households up to EUR 1000 (44%) and 148 (37%) reported the income up to EUR1500. Only 3% (12) reported this sum not exceeding EUR 3000 and only four respondents (1%) exceeded the EUR 3000

monthly household income value. 16 respondents (4%) declared that their household income remained below EUR 500.

More than a half of respondents (227) live in family houses (56.75%) and 173 respondents (43.25%) in apartments. The highest was the number of four-member households (212; 53%), followed by two-member households (82; 20.5%) and households of three members (42; 10.5%). Single-member households (32; 8%) and households of more than four members (32; 8%) had the same representation in the survey. 65% (260) of households stated they had no children up to the age of 15; 22% (88) of households reported one child under the age of 15; 10% (40) of households stated they had two children at the given age; and 3% (12) of households reported more than two children up to 15 years.

The aim of this quantitative survey was to clarify and assess the situation in terms of purchase, consumption and disposal of products or of their packaging or waste of these products in a quantitative sample of Slovak consumers. The main research issue was formulated based on the following: What is the environmental awareness of Slovak consumers in relation to the purchase, consumption and ownership of products with regard to economic effects? From this basic research problem, the following partial descriptive research hypotheses were formulated through structured genesis:

- What are Slovak consumers' attitudes towards the purchase of environmental goods?
- Which factors affect Slovak consumers in their decision to purchase and consume environmentally friendly goods?
- What is the behaviour of Slovak consumers after consumption of products, in the context of their disposal and valuation?
- What are the limits and barriers to the environmental behaviour of Slovak consumers?

While formulating conclusions, we relied on a set of hypotheses on the assumption that Slovak consumers are environmentally conscious customers, as manifested by way of their environmentally oriented consumption and after-sales behaviour. Upon these premises, we have established the following circumlocutory hypotheses, formulating them in relation to the descriptive research issues:

H1: Slovak consumers prefer environmental products in their purchases.

H2: The environmental behaviour of Slovak consumers is primarily influenced by social, demographic and personal factors.

H3: Upon product consumption, Slovak consumers behave in an environmentally responsible way while considering economic effects.

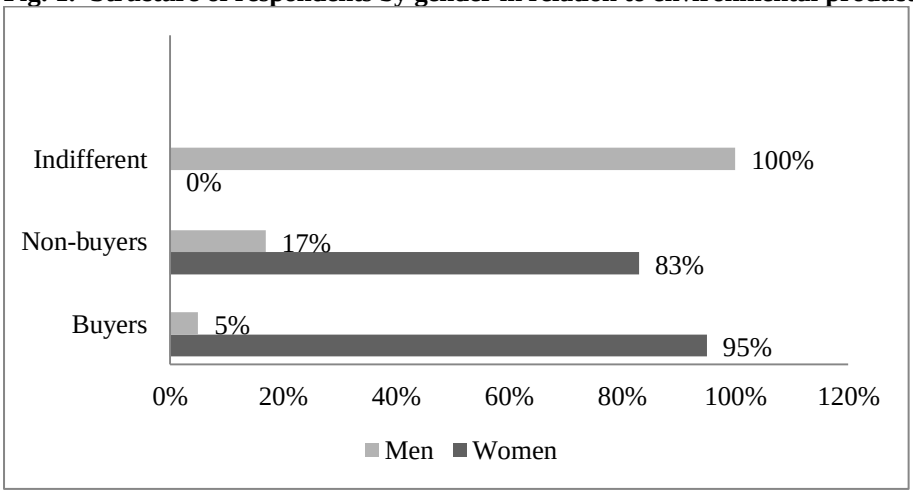
2.2 Summary of the quantitative survey results

This part of the paper presents the main findings of our research survey. More than a half of respondents (238; 59.5%) stated they purchased environmental products. These respondents (n = 238) designated as environmental products, without hints, mainly organic (bio) products (166; 69.75%); products that do not harm the environment (110; 46.2%); products not tested on animals (85; 35.7%); products made from natural materials (81; 34%); recyclable products and packaging (80; 33.6%); products without packaging (54; 22.6%) and renewable energy sources (48; 20.1%).

152 (38%) of all respondents have not been purchasing environmental products, and only ten of the entire sample (2.5%) declared an indifferent attitude, i.e., while purchasing and/or consuming, they paid no attention whether or not their purchases involved environmentally friendly products. Those respondents who do not purchase environmental products (n = 152), identified, without a helpful hint, mainly organic products (95; 62.5%); products which can be recycled (72; 47.3%); products of domestic producers (32; 21%) and energy-saving products (27; 17.7%). Respondents declaring disinterest in the product environmental properties identified these products (without a helpful hint) as organic (bio) products (10; 2.5%) and homegrown or homemade products (7; 1.75%).

Women respondents clearly dominated the sample (n = 238) declaring environmental product purchasing preferences (226; 95%); the same gender, however, prevailed also in the group of respondents not purchasing environmental products (n=152) 83% (126) of women respondents. Conversely, a small group of respondents who declared an indifferent attitude to environmental products (n = 10) consisted only of men.

Fig. 1: Structure of respondents by gender in relation to environmental product purchases



Source: Results of our quantitative survey

Respondents reported, with helpful hints, the following most common motives for their purchase of environmental products: environmental protection (117; 49%); healthier products (102.43%); quality products (57; 24%), less energy-intensive products (52; 22%), and reuse options (40; 16.8%). The purchasing and consumption of environmentally friendly products were marked as a matter of fashion and/or trend only by 15 respondents (6.5%). As many as 184 respondents (77.5%) buying environmental products do not consider higher prices as a deterrent compared to less-costing standard products; 54 respondents (22.5%) took the price in consideration, especially in terms of supply, price and quality of other (standard) products. Within the range of environmental goods, food (210; 88%), cosmetics (142; 60%) and fuels (95; 40%) prevailed.

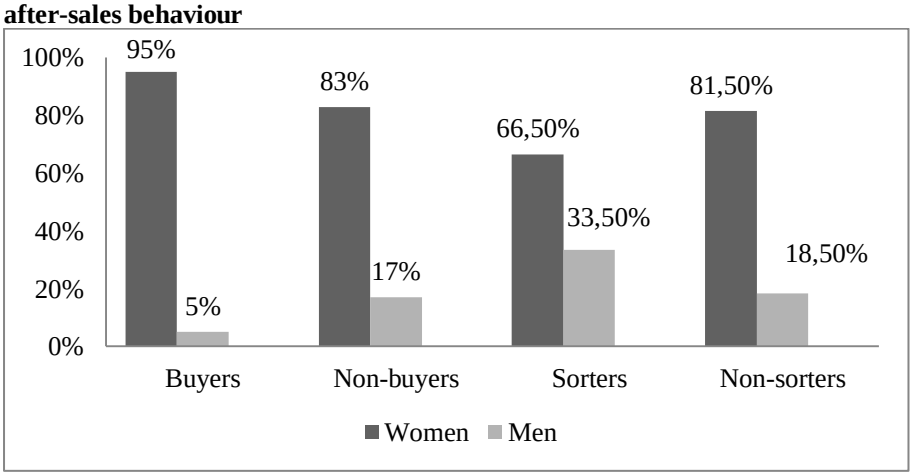
The respondents who do not buy environmental products reported that their main reasons for that fact were such product properties as inferior quality, worse taste, unattractive appearance, etc. (107; 70%), higher price (89; 58.8%), poor offer (59;) and the lack of information about such products (51; 38.3%). All respondents manifesting indifferent attitudes reported that the main reasons of their lack of interest were information insufficiency (85%) and insignificance of this kind of purchase (75%).

Of all the respondents (n=400), as many as 72% (288) reported that they sorted waste in their households. Their absolute majority sorted plastics (98%), followed with glass (74%); paper (70%) and biological waste (60%). The reasons for such sorting were, according to the respondents, protection of the environment, (90%); healthier and more orderly environment (83%) and economic valuation of the waste by e.g. reuse (57%). As regards obsolete electric appliances, 22% (58) of respondents take them to a scrapyard, donate, store them at home, or deliver them to a sales outlet. However, such responsible approach applied only to the handling of large appliances – refrigerators, laundromats, TV sets). Conversely, most respondents (89%) reported throwing small appliances – mobile phones, mixers, irons – into household refuse bins. The same applies to batteries and lamps (92%). Only a small proportion of respondents (38; 9.5%) reported repair and reuse of obsolete appliances. Women prevailed (191; 66.5%) among all respondents (n=288) who reported sorting of wastes.

We have found that the respondents who declared responsible handling of electric appliances (n=22) mentioned mainly (90%) good conditions as reasons for this kind of approach (the possibility of delivering obsolete appliances to the sales outlet when buying new ones), suitable information level (95%) and (80%) the legislation. On the other hand, the absolute majority of those admitting throwing small appliances, batteries, lamps, etc. into household

refuse bins justified their behaviour with the lack of suitable containers in their surroundings (94%), as well as the lack of information (90%) and awareness (25%). The respondents declaring that they do not sort waste at home (112; 28%) stated the lack of time (74; 83%), lack of space (70; 78.4%), lack of information (57; 63.84%), and lack of containers (42; 37.5%), while three respondents stated that such handling had never occurred to them. This group of respondents was again dominated by women (91; 81.5%).

Fig. 2: Comparison of respondents by gender in regard of their purchase of environmental products and after-sales behaviour



Source: Results of our quantitative survey

We were interested what would make these respondents start to sort waste (n=112). As many as 78% (87) reported exclusively financial stimuli (e.g. waiver of collection fees); 10% (11) nonfinancial stimuli (e.g. sufficiency of bins available for collection purposes and their vicinity to the house or flat), and 12% (14) reported both types of these stimuli.

CONCLUSIONS AND DISCUSSION

The results of the survey corroborated our hypothesis H1 and, partly, also of H2-3. It follows from the results that the Slovak consumers addressed in the survey buy environmental products. They indicated such attributes as the protection of the environment and health protection, as well as lower energy intensity as their main motives.

Men represented the entire group of respondents who behaved indifferently in regard of their purchases of environmental products. Conversely, those having declared purchases of environmental products, along with responsible post-consumption attitudes in the handling phase of product, its packaging and/ or waste were clearly dominated by women. Women prevailed also among the respondents who did not purchase environmental products and did not sort waste. Thus, gender is not included in the factors influencing environmental approach

to the purchase of environmental products. Rather, this finding confirms the dominant role of women in purchases and their status in the family and/or household.

While trying to establish the after-purchase behaviour and approach to the environmentally and economically efficient handling of products and their packaging and/or waste, we have found it promising that that nearly three quarters of all Slovak consumers surveyed sorted waste at home. In this area, motives as environmental and health protection and also economic effects (lower energy consumption and/or reuse of waste) dominated the approach. In connection with the disposal of old appliances, however, such approach could not be identified. Respondents only reported environmentally responsible behaviour in the handling of large appliances; for small appliances, however, no such responsible actions applied. We assume that in addition to motives, for instance the lack of bins, ignorance and unawareness, there might be more motives, ranging from an easy disposal (small batteries or lamps can be very simply thrown into the refuse bin, as opposed to large refrigerators) to poorly perceived environmental burden of such products to the environment and consumers' health, along with their low economic valuation.

Our survey has shown that those respondents who manifest positive attitudes to environmental products, both in their purchasing and after-purchase phases (sorting and disposal of waste) prevailingly had higher education (university and secondary), higher income and represented three- to four-member households living in family houses. In order to confirm the influence of individual factors on environmentally oriented consumer behaviour of Slovak consumers, and to establish the knowledge of value-attitude system and environmental awareness of Slovak consumers, along with their understanding of the economic effects of such approach, we would like to follow up on the implementation of the survey results in a qualitative research survey. This research will enable us to obtain an insight into mainly all attitudes, opinions and expectations of respondents concerning environmental products, motives of their purchase, consumption and handling of these products and/or their waste, as well as the reasons and factors influencing the environmentally oriented consumer behaviour.

The results of this stage of our survey form the basis of not only continuing research but also of additional topics towards the elimination of any barriers and limitations to an environmentally responsible conduct of Slovak consumers (sufficiency of collection bins and collection yards and their vicinity to dwelling areas, motivation, education and information).

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The Analysis of the Use of the Financial Analysis Methods in Slovak Companies

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Abstract: The article is concerned with the methods of the financial analysis which evaluate a degree of financial objectives fulfilment in a company and predict the development of its financial situation. This makes them a tool of company competitiveness enhancement. The article presents the results of a primary research focused on the use of the financial analysis methods in the business practice in Slovakia. Its aim is to identify the mostly used methods of the financial analysis in the Slovak companies and determine major reasons of the low level of their use.

Keywords: financial analysis, financial ratios, prediction methods, balanced scorecard

JEL Classification codes: G30, M21

INTRODUCTION

Proper financial management and decision-making is inevitable in the contemporary turbulent market economy environment. We can use a common term financial management to refer to them both. In the market economy setting, financial management represents an integral, even dominant side of economic activities. It is concerned with cash and company capital movements. The content of financial management, which is an integrating factor of the whole business management system, is management of business financial processes. It includes four fundamental areas, namely financial planning, financial decision-making, organizing of financial processes and the financial analysis and control.

The financial analysis is an area which interconnects two tools of business management – financial accounting and financial management (Grünwald 1996, p. 59). The financial analysis evaluates a degree to which financial objectives were achieved in the past periods (the ratio financial analysis) and predicts the development of the company´s financial situation (the financial forecasting and prediction methods). The quality financial analysis resulting from relevant and reliable sources of information can represent an important instrument of strengthening of company´s competitiveness. On the ground of the correctly interpreted results of the financial analysis a company can pay attention on their strengths and take various revitalizing measures in order to eliminate their weaknesses in the future.

The aim of the submitted article is, based on the results of a realized survey research, to assess the present state of the use of financial analysis methods in practice of Slovak companies. In the article we mainly focus on the identification of types of companies which apply the financial analysis methods, the identification of the most used financial analysis methods in business practice and the definition of the main reasons explaining why the financial analysis methods are not used in practice.

1 THEORETICAL BACKGROUND OF FINANCIAL ANALYSIS METHODS

Financial management is an area of the financial decision-making processes within a company. Thus, it deals with the generation, use and distribution of the generated value in business activities (Vinczeová & Krištofík 2013). In a market economy, financial management and financial decision-making constitutes an integral and dominant part of business activities, regarding the company´s crucial financial objective which is its value enhancement. To accomplish this crucial mission, companies have to meet all their financial obligations. Ensuring this is a complex task belonging to the business finance function represented by financial management. Since all financial criteria and objectives form a part of the overall economic criteria and business objectives, they have to be respected in business management. Thus, all decisions and processes, not only financial ones, will finally be reflected in the company´s financial results. Therefore, the financial analysis may be seen as one of the key components of financial management (Hiadlovský, Rybovičová & Vinczeová 2016). An effective implementation of its instruments is essential in search of excellent financial performance of any company.

The financial analysis is a diagnostic tool of financial management. A thorough analysis of financial results, identifying the causes of deviations and discrepancies, establishing causal relationships in the system is one of the most important tasks in ensuring the effectiveness of control in management systems. Then, based on the results, financial managers are expected to take measures to eliminate detected failures and problems and make decisions aimed at further successful operation and performance of their company (Hiadlovský, Rybovičová & Vinczeová 2016). As Lesáková et al. (2007) note, the objective of the financial analysis is to diagnose financial health of a company and find out the factors which have shaped it. The factors can be classified into two groups – external factors which cannot be influenced by a business entity, and internal ones, which result from a business activity (qualitative and quantitative ones) (Zalai et al. 2013). In terms of time, the financial analysis can be compiled as the ratio analysis or financial forecasting analysis. The analysis of financial ratios evaluates

a current situation through the past review, in so far it is a retrospectively oriented financial analysis. One of its disadvantages is that it is not possible to change anything in the achieved position, it has a static character. The financial forecasting methods focus on the future (regarding a time aspect, it involves maximum a five years´ period). Its objective is to predict a company´s financial situation.

In order to accomplish the financial analysis accurately and correctly, certain assumptions have to be met. They can be divided into three steps:

1. to ensure a reliable database (the final accounts of a company are a main information source for the financial analysis),
2. to determine a process which respects a logical and chronological sequence of particular steps (in general, besides a calculation of particular ratios, an accomplishment of a spatial analysis, time series and analysis of relations among ratios is also recommended, which is followed by a set of actions),
3. to apply methods objectifying the analysis conclusions.

To analyze the company´s financial situation different simpler or more complex financial analysis methods are used. The choice of methods depends on the extent to which the financial situation is to be examined, a degree of company´s financial health evaluation and a target group for which the financial analysis is prepared. When choosing methods, companies have to place great emphasis on three factors, namely suitability, the cost ratio and reliability. Before analyzing, it is a priority to realize a purpose of the financial analysis and objective which a company pursues. A ratio system is different for each company type. The business financial analysis is a complex process which requires a certain amount of time and work meaning that to prepare the financial analysis a company needs to expend a certain amount of funds return on which is expected after a certain time period. Reliability is based on quality of input information. It applies to the financial analysis that the more reliable input information is, the more reliable the results of the analysis.

The literature suggests several classifications of the financial analysis methods. This article is based on the following classification (Musa & Hiadlovský 2014):

1. elementary methods of the financial analysis
    - the analysis of absolute indicators,
    - the analysis of difference indicators,
    - the analysis of financial ratios,
    - the analysis of ratio systems,

2. forecasting methods,
3. financial analysis methods based on the net present value,
    - accounting indicators,
    - economic indicators,
    - market indicators,
4. mathematical models in the business financial analysis,
5. the Balanced Scorecard concept,
6. other financial analysis methods.

Elementary methods are primarily used in in practice of small and medium-sized enterprises since simplicity is their main strength. The group of the elementary methods comprises of a wide range of indicators at which financial ratios are of most importance. The financial analysis provides a relatively high degree of freedom to a financial analyst when designing a particular ratio. We can find different ways of defining particular ratios in the literature. It is, however, important for a financial analyst to pay a higher attention to the choice of the ratio which should correspond with an industry in which a certain company operates. Most frequently financial ratios are classified into five groups, including ratios of liquidity, efficiency, leverage, profitability and market value.

The second group includes the financial forecasting methods (financial standing and bankruptcy models). The methods of business financial situation forecasting have to include an analyzed company in the group of prosperous or failed companies with a reasonable reliability. The literature presents a wide range of simple as well as more complex forecasting methods which more or less successfully forecast the business financial situation. The relevance of the forecasting methods in financial management also consists, among other things, in a reasonable estimation of the future potential of a company in order to determine real financial objectives, since, as Lesáková (2013) states, a top management formulates business financial objectives for a particular time horizon based on analyses and prognoses.

Companies make efforts to use various economic and non-economic instruments to ensure and maintain their competitiveness. Hence, methods deviating from a single business success criterion represented by profit maximization have been gaining ground. The Economic Value Added (EVA) belonging to the financial analysis methods based on the net present value is the most noted and used. Michaliková and Hrabovská (2012) define the EVA indicator as a net return on business operating activities reduced by the cost of capital. The EVA indicator issues from a principle that a company has to generate at least such a return which equals to the cost of the invested capital. This cost of capital or the required rate of return refers to

equity as well as debt. The EVA indicator can be also viewed as a way in which the owners measure profit after the settlement of the alternative cost of capital.

The Balanced Scorecard concept (BSC) is a strategic measurement and management of business performance. As Knápková, Pavelková and Šteker (2013) present, the BSC concept adds new nonfinancial measurements to the financial ones. In general, the BSC concept contains four perspectives – financial, customer, internal process and learning and growth one. The Balanced Scorecard is a method which creates a relationship between strategic and operational activities with an emphasis on performance measurement. That means that it targets the formulation of appropriate strategic objectives while focusing on their measurability.

2 AIM OF THE ARTICLE AND RESEARCH METHODS

The aim of the article is to present the results of the primary research concerning on the detection of a current situation regarding the use of the financial analysis methods in Slovak business practice. Two partial objectives are joined with the main goal. The first partial objective is to identify the most used financial analysis methods in business practice. The second partial objective is to determine the main reasons revealing why Slovak companies do not use the financial analysis methods in their practice. Based on the above main objective and partial objectives we formulated two research assumptions:

1. We assume that the financial ratio analysis is the most used financial analysis method in business practice.
2. We assume that the main reason explaining why Slovak companies do not use the financial analysis methods is the company size (too small company).

To achieve the main objective we used the method of enquiry, within the frame of it we decided to apply the questionnaire technique. The survey research took place in the period from January to March 2016. The questionnaire was created by the Google Docs application and it was distributed to Slovak entrepreneurs by e-mail. We preferred a closed-ended type of questions as there is a higher probability of obtaining answers from respondents. The survey questionnaire was sent to 1 000 companies. The sample of companies was drawn by means of a random selection from the "Index podnikateľa" database. This index was established as an instrument of the support and development of the transparent business environment in the Slovak Republic. It is an innovative and unique service which is able to examine and analyze any company doing business in the Slovak Republic. We received 80 correctly filled questionnaires corresponding to the 8 % response rate.

The sample of 80 companies contained 23 micro-enterprises (28.8%), 22 small enterprises (27.5%), 21 medium-sized enterprises (26.3%) and 14 large enterprises (17.5%). According to SK NACE classification 9 companies (11.3%) operates in agriculture, forestry and fishing. Manufacturing is represented by 20 companies (25%). One company (1.3%) is doing business in the area of electricity, coal, steam, air conditioning and water supply. Ten companies (12.5%) do business in construction, nine companies (11.3%) in wholesale and retail trade, four companies (5%) operate in transporting and storage, three companies (3.8%) provide accommodation and food service, one company (1.3%) operates in information and communication, six companies (7.5%) provide financial and insurance services, one company (1.3%) is involved in real estate activities, three companies (3.8%) perform professional, technical and scientific activities, five companies (6.3%) provide administrative and support services, three companies (3.8%) operate in education and five companies (6.3%) provide human health and social work services.

General scientific research methods, in particular the analysis, synthesis, induction, deduction and comparison were applied to process the results of the survey research.

3 RESULTS AND DISCUSSION

The first question in the questionnaire was a so called classifying question dividing the sample into two groups of companies – those who use the financial analysis methods and those who do not use them in their business practice.

The sample contains 22 companies (11 micro-enterprises, 7 small enterprises and 3 medium-sized enterprises) which do not use financial analysis methods in their business practice and do not evaluate the condition and development of their financial situation. In this group we were interested in the main reasons revealing why they do not use the financial analysis methods. The companies could choose one out of six possible answers – time demandingness, the increased cost, too small company to carry out the financial analysis, the financial analysis is not required by company management, unfamiliarity with the financial analysis methods, the financial analysis is not considered significant by a company. The following Table 1 shows the evaluation of the above question.

Tab. 1: Main reasons of the nonuse of the financial analysis methods

Main reason of the nonuse of the financial analysis methods	**Number of enterprises**
Time demandingness	0
Increased cost	0

Main reason of the nonuse of the financial analysis methods	**Number of enterprises**
Too small company to carry out the financial analysis	11
Financial analysis is not required by company management	7
Unfamiliarity with financial analysis methods	3
Financial analysis is not considered significant by a company	1
Other	0

Source: Own elaboration

In the above table we can see that up to 50% of respondents (11 companies) do not use the financial analysis methods for as much as they consider their company too small. Seven respondents (31.8%) stated that the realization of the financial analysis was not required by the company management. Knowledge of the financial analysis is missing in three companies (13.6%).

Within the given group of companies, we were concerned about whether companies planned to evaluate their financial situation by the financial analysis methods in the future. All 22 companies answered this question in a negative way. These companies should become aware of the advantages of the financial analysis by means of which they could develop their strengths, minimize their weaknesses and, finally, enhance their competitiveness.

It also resulted from the survey research that 72.5% respondents (58 companies) carried out the financial analysis. Regarding the company size (determined by the number of employees), there were 18 medium-sized enterprises (50 to 249 employees), 15 small enterprises (10 to 49 employees), 13 large enterprises (more than 250 employees) and 12 micro-enterprises (up to 9 employees). It is mostly typical for small and the majority of medium-sized enterprises that a financial analyst and financial manager is one and the same person, often integrated with a complex company management. This is at once an advantage and disadvantage. If the whole management is concentrated into a single person or a very small number of persons, that can lead to not sufficient attention devoted to essential aspects of financial management due to an extensive complex of managerial tasks. On the other hand, an absolute close interconnection between particular management areas and a fair attitude and concentration on cardinal requirements produces a good starting assumption for an achievement of determined financial as well as nonfinancial goals (Hiadlovský 2014). In accordance with SK NACE classification, i.e. according to the economic industries, the most companies realizing the financial analysis belong to manufacturing, construction and agriculture. According to the regional venue there

were most companies from the Banská Bystrica region (21 companies), Bratislava region (9 companies) and Trnava region (7 companies).

To evaluate its financial situation, the company may use different information sources. Concerning the final accounts in double-entry bookkeeping (including the balance sheet, profit and loss account and notes to the accounts), the balance sheet can be found as most important whereas it provides not only the information concerning the state and movements of the assets and sources of finance but also the information about profit/loss (profit is a part of the equity on the assets and claims on assets side of the balance sheet). Companies in the sample consider the profit and loss account as mostly used and most important (75.9% respondents, i.e. 44 companies). The balance sheet is considered in this way by 70.7% respondents (i.e. 41 companies).

In the next part of the questionnaire we were interested in the main reasons explaining why Slovak companies evaluated their financial situation. The largest portion of companies (72.4%, i.e. 42 respondents) stated that they carried out the financial analysis in order to monitor the value of profit or loss. The identification of weaknesses was presented as a main reason of realization of the financial analysis by seven companies (12.1%) and three respondents (5.2%) carried out the financial analysis to identify their strengths.

The most significant part of the survey is that one in which 58 companies were expected to determine particular methods used by them to evaluate their financial health. The financial ratios (the elementary financial analysis methods) are used by 37 companies (63.8%). Most respondents (18 companies) use the profitability ratios (or loss ratios). The liquidity ratios measuring a company´s ability to pay its short-term debt obligations are used by 11 companies. The efficiency and leverage ratios are used by three companies.

The methods of financial forecasting are only used by 12.1% respondents, i.e. seven companies. The results of the survey research confirmed the results of previous empirical surveys (Gundová 2015) when manifested that the prediction methods had not been preferred in Slovak business practice. During the analysis applying the forecasting methods we were further took concern in particular prediction methods. The most preferred forecasting methods of the financial analysis are a financial standing index (three companies) and quick test (two companies).

Thereafter we followed whether Slovak companies determined the value of the EVA indicator which is used as a measurement of business performance. This indicator is calculated by 13 companies (22.4%), they are particularly small and medium-sized companies. 35 companies (60.3%) have heard about the EVA concept although they do not have the more detailed

information available. Ten companies (17.2%) do not know the EVA indicator and its concept at all.

The subsequent part of the questionnaire centred on a strategic system of performance measurement and management, i.e. the BSC method. The BSC method, which can be included to relatively new and modern methods of the financial analysis, is practically applied only by 5.2% respondents (i.e. three companies). This method is only very rarely used by Slovak companies what is also documented by the results of some previous empirical surveys (for example Lesáková & Dubcová 2015; Gavúrová 2010). It accrued from the survey research that even as much as 53.4% respondents had encountered the term Balanced Scorecard so far and 41.4% respondents have heard indeed about the method, however, they are not familiar with it in a more detail.

On the ground of the survey research we found that 72.5% respondents (58 companies) evaluated the state and development of their financial situation. On the contrary, 27.5% respondents do not apply any method of the financial analysis. In the closing part of the questionnaire all companies in the sample were required to specify whether the financial analysis was significant for them. Seven companies do not regard the financial analysis as significant, 20 companies stated that the financial analysis is rather not significant for them. 29 companies (36.3%) declared that the financial analysis was very significant for them and those companies consider it an important component of their business activity. 24 companies (30%) find the financial analysis rather significant.

One of the primary tasks of the financial analysis is to provide the quality and timely information for the process of financial management and decision-making. The financial analysis performs this task in general, regardless of the company´s size and character. The company size criteria then specifically show themselves in the way and extent to which the particular external and internal information will be used in the process of financial decision-making. There are several cardinal general differences among the financial characteristics of small and medium-sized enterprises and large enterprises which affect a way of the use of the financial information as well as, finally, financial management itself: 1. Profitability variability is usually higher in small and medium-sized enterprises compared to large ones. A business risk measured for example by profit variability before interest and taxes is also higher in this type of enterprises. The fact that small and medium-sized enterprises are able to diversify their investment activities in a rather limited way (also from a geographical point of view among other things) leads to higher profit volatility. 2. Small and medium sized enterprises have a lower level of long-term leverage (measured as long term debt to assets). It

is a consequence of that they have a simpler (and often the only) access to short-term sources of finance (such as trade credit, overdrafts, etc.) than to long-term capital. We can also name some other differences in financial characteristics which, however, are not entirely general but their appearance was noticed. 1. In some countries small and medium-sized enterprises record a lower rate of profitability than large enterprises. 2. Large enterprises usually have a higher liquidity rate measured by means of a current ratio. One of the reasons is that accounts payable are generally understood as an essential source of short-term finance and efficiency concerning turnover of accounts receivable and inventory is also usually higher. 3. The capital structure of small enterprises contains more debt than equity. In small and medium-sized enterprises, a preparation of the financial information is to a large extent dependent on the knowledge and experience of financial managers. The financial information can be prepared by means of external outsourcing (represented by professional advisory and consulting companies) or internally by managers or company owners if they have a broad knowledge and experience in the area of financial management. In some cases it is possible to use a combination of these ways.

The acquirement of the financial information in an external or internal way is otherwise an important step. Though, their use is much more essential. Managers in small and medium-sized enterprises may have the reliable and sound information available, their interpretation and use in a most appropriate way so that they bring positive results for a company, however, often becomes a problem in practice. This again underlines the significance of a certain level of the knowledge and experience for the efficient use of the financial information in the area of financial management and significantly determines successful performance of a small or medium-sized company in the business environment. Finally, the above process also determines the fundamental business objectives in conditions of small and medium-sized enterprises, such as a survival first and foremost, and then profitability, growth and sustainability (Hiadlovský 2014).

CONCLUSION

The aim of the submitted article was to present the results of the primary research concerning on the use of the financial analysis methods in practice of Slovak companies. The main objective was decomposed into two partial objectives. By help of the enquiry method we managed to obtain 80 fulfilled questionnaires. Pursuant to the main objective we defined two assumptions. In the first one we assume that the financial ratios are most used within the financial analysis methods. This assumption was confirmed since the financial ratios are used

by 63.8% companies. The prediction methods, the EVA indicator and Balanced Scorecard method are not preferred in practice of Slovak companies which were included in the analyzed sample. The second assumption focused on the reasons explaining why the financial analysis methods had not been used. In the article we assumed that the main reason why Slovak companies did not used the financial analysis methods was the size, i.e. "littleness" of a company. This assumption was also confirmed because up to 50% out of 22 companies not using the financial analysis methods stated the size of their company as a main reason, i.e. their business is too little to carry out the financial analysis.

In the current business environment, the significance of the financial analysis is high and companies should become aware of that the financial analysis should be carried out regularly and not only when they have some financial problems. For that reason the arguments of companies which do not carry out the financial analysis since they nowadays do not have any financial problems cannot be considered reasonable. By the medium of the financial analysis methods a company can identify its strengths and weaknesses including possible financial distress in the future. The very definition of the prediction methods is founded on the fact that certain anomalies containing the symptoms of future problems, which are typical just for the threatened companies, occur a certain time before the crisis arises. On the basis of this fact a company can take some revitalizing measures in advance of the crisis situation. Accordingly, we do not consider advisable to carry out the financial analysis only if a company suffers from some financial problems. In such a situation its very existence is endangered and the advantages resulting from the realization of the financial analysis wane. In the same way, by means of the financial analysis methods, a company can enhance its competitiveness.

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Competitiveness of Slovakia: Strengths and Weaknesses

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Abstract: The aim of the paper is to analyze the aspects of competitiveness of Slovakia, based on various international rankings such as Doing Business or Global Competitiveness Index. Each of these rankings is focused on rather different set of criteria and thus cannot reflect the quality of business environment in its complexity. Nevertheless, they provide a valuable insight into best practices of other countries and an overview for the investors willing to enter new markets. Despite their limitations, competitiveness rankings are often closely monitored by the media and entrepreneurs as well. Besides description of business environment, they can act as catalysts of its improvement which is also the case of Slovakia.

Keywords: competitiveness, business environment, regulations

JEL Classification codes: K11, K22, O19

INTRODUCTION

Quality of business environment is an important part of country's competitiveness. However, its complexity makes it very difficult to assess objectively. Regulations play an important role in business environment formation. Even though there are efforts to harmonize the regulatory framework across different countries (e. g., in the European Union), different legislation is still one of the aspects taken into account in investment decision-making process. International organizations evaluating the competitiveness often consider the opinions of entrepreneurs operating in given countries when making the final competitiveness rankings, as is also the case of the World Bank and the World Economic Forum.

1 LITERATURE REVIEW

Competitiveness of countries is a broad and complex issue and its in-depth analysis is not in the focus of this paper. From the public administration point of view, high importance is given to the various competitiveness rankings issued by international economic organizations, which are perceived as important tools for entrepreneurs' and foreign investors' decision-making. The government in Slovakia also prepares some of the measures to improve the business environment with the competitiveness rankings in mind. Literature review is therefore focused on the standings of Slovakia in the Doing Business and Global

Competitiveness Index rankings. Development of its position was not steady and Slovakia experienced several setbacks in a couple of previous years.

1.1 Doing Business

The Doing Business report is issued by the World Bank on a yearly basis. In its 2017 edition (World Bank 2016a), the report ranks 189 countries according to the state of their regulatory environment impacting businesses. The data are collected via different means, dependent on the specific indicator: questionnaires are filled in by the government agencies, ministries or private companies such as law firms. These sources are supplemented by the publicly available information, e. g. laws, regulations or registries.

Tab. 1: Slovak Republic in the Doing Business Rankings 2013 – 2017

Indicator	Edition of the Doing Business report					
	2017	Y.o.y. change	2016	2015	2014	2013
Starting a Business	68	- 4	64	71	108	83
Dealing with Construction Permits	103	-1	102	78	53	46
Getting Electricity	53	-6	47	46	65	100
Registering Property	7	-2	5	5	11	8
Getting Credit	44	-2	42	36	42	23
Protecting Minority Investors	87	-2	85	87	115	117
Paying Taxes	56	+2	58	109	102	100
Trading across Borders	1	-	1	63	65	69
Enforcing Contracts	82	-1	81	1	108	98
Resolving Insolvency	35	-1	34	33	38	38
Overall Ranking	33	-3	30	29	49	46

Source: based on the data from Doing Business reports 2013 – 2017

Slovakia fell 3 places to 30th place compared to revised version of Doing Business 2016. According to the Report on the State of Business Environment in the Slovak Republic prepared by the Ministry of Economy (2017), the main reasons were more significant improvement of business environment in other countries than Slovakia, parliamentary elections which were held in March 2016 in Slovakia which slowed down the legislative process for several months and insufficient awareness of the possibilities which the Slovak regulatory framework offers to entrepreneurs.

However, there are also certain cases when the World Bank did not accept the reforms or changes in legislation and processes as they were stated in the questionnaires. If accepted, they might have improved the standings of Slovakia in several indicators. Based on previous experience, it can be assumed that the World Bank puts higher importance on the opinions of entrepreneurs than to information provided by governmental institutions. Raising awareness

on possibilities and services of the public sector for businesses is therefore a key issue in order to improve the standings of Slovakia in the Doing Business ranking.

1.2 Global Competitiveness Index

The Doing Business report is issued by the World Bank on a yearly basis. In its 2017 edition (World Economic Forum 2016), the report ranks 189 countries according to the state of their regulatory environment impacting businesses. The data are collected via different means, dependent on the specific indicator: questionnaires are filled in by the government agencies, ministries or private companies such as law firms. These sources are supplemented by the publicly available information, e. g. laws, regulations or registries. Slovakia has improved by 13 places in the last four editions of Global Competitiveness Report, but has also returned to the transition from stage of development 2 (efficiency-driven economy) to stage of development 3 (innovation-driven economy). In the 2014 – 2015 and 2015 – 2016 editions, Slovakia was ranked in the innovation-driven stage of development.

Among the 12 pillars of competitiveness, Slovakia has performed the best in Financial market development (33rd place) and Macroeconomic environment (37th place). On the other hand, the worst positions were in Labor market efficiency (93rd place) and Institutions (102nd place) pillars.

Tab. 2: Slovak Republic in the Global Competitiveness Index 2013 – 2017

	Edition of the Global Competitiveness Report			
	2016-2017	**2015-2016**	**2014-2015**	**2013-2014**
Ranking	65	67	75	78
Stage of development	Transition from 2 to 3	3	3	Transition from 2 to 3

Source: based on the data from the Global Competitiveness Report 2013 – 2017

2 METHODOLOGY

Since every indicator measures different set of criteria with different weights, proposed reforms vary in significance of their ability to affect the standings of the country. The significance of the changes can be measured by using the DTF Calculator, which enables to change the input data and calculate new ranking. However, this calculation assumes stable conditions in other countries.

Even though the ten indicators present a broad picture of business environment state in different countries, they cannot describe it in its complexity. As the evaluation is narrowed to certain issues, not every measure or reform to improve the business environment is mirrored

in the rankings. The information is gathered via questionnaires filled in by the representatives of private or public sector and also from the publicly available sources (World Bank 2016b).

Based on the methodology and questionnaires of the indicators, the critical points of Slovak regulatory framework were identified and measures proposed to improve the position of the country in the standings. Five indicators with the lowest ranking were chosen for this purpose: Dealing with Construction Permits (103.), Protecting Minority Investors (87.), Enforcing Contracts (82.), Starting a Business (68.) and Paying Taxes (56.).

Methodology of the World Economic Forum's Global Competitiveness Index is based on the combination of statistical data such as enrollment rates, government debt, budget deficit, and life expectancy gathered from various institutions (e. g., United Nations Educational, Scientific and Cultural Organization - UNESCO, the International Monetary Fund - IMF or the World Health Organization – WHO) and the information from annual Executive Opinion Survey (World Economic Forum 2014). The index tracks performance in 12 pillars of competitiveness: Institutions, Infrastructure, Macroeconomic environment, Health and primary education, Higher education and training, Goods market efficiency, Labor market efficiency, Financial market development, Technological readiness, Market size, Business sophistication and Innovation.

CONCLUSIONS

The following part of the paper is focused on the selected indicators of the rankings in which Slovakia's position can be significantly improved. Proposed measures are based on the methodology of the rankings and the existing legal framework in Slovakia – the measures are thus proposals how to improve Slovak regulatory environment in order to improve the country's standings.

Dealing with Construction Permits

Slovakia placed 103rd with the Distance to Frontier score of 67.82, a slight improvement of 0.01 point compared to previous report (World Bank 2016f). Nevertheless, it is the worst ranked indicator for Slovakia. The case study assumes building of the warehouse valued as 50 times the country's income per capita. The indicator is a simple average of four sub-indicators: number of procedures needed to build a warehouse, time required to complete these procedures, costs of the procedures and finally, the Building Quality Control Index. This index assesses quality of building regulations, quality control before, during and after construction, liability and insurance regimes and requirements for professional certification for individuals who approve and supervise construction (World Bank 2016c).

Tab. 3: Slovak Republic and the Dealing with Construction Permits indicator

Number of procedures	Cost	Time	Building Quality Control Index (max. 15)
10	0,1 % of the warehouse value	286 days	10

Source: based on the data in Doing Business 2017

As for the Building Quality Control Index, Slovakia gained just two thirds of the points available. If this index was at the maximum value of 15, it would result in 37th place, an improvement of 66 places.

The possible measures to raise the index value include:

- involvement of licensed architect or licensed engineer in reviewing and approving of the building permit application and introducing their ability to reject the application if it is not in line with the regulation framework,
- to introduce the obligation of in-house or external supervising engineer or government agency to conduct risk-based inspections during construction,
- to introduce the obligation for the architect or engineer designing building plans or for the professional conducting technical inspections or for the project owner or its investor to obtain an insurance to cover possible structural flaws or other problems once the building is in use,
- the obligation for the professionals conducting technical inspections during construction to have a minimum threshold of practical experience, a university degree in engineering and either to be a member of national order of engineers or to pass a qualification exam.

All of the suggested measures have to be implemented by the legal action.

The procedures include interactions with state agencies, utility companies and municipalities. The improvement can be reached by combination of some of them into one procedure:

- procedure 4: Request and obtain the construction permit from the municipality, and procedure 5: Receive on-site inspection before construction,
- procedure 7: Request occupancy permit, and procedure 9: Obtain an occupancy permit from the municipality (similar to procedure 4: Request and obtain the construction permit from the municipality, which is not divide into two separate procedures)

Scaling down of the number of procedures by two would result in improvement of 20 places in the rankings to 83rd place.

The costs which represent only 0.1 % of the warehouse value do not provide much room for improvement: by lowering them in a half, Slovakia would move only place upwards in the standings.

The time required to complete all the procedures is 286 days and even though some of the procedures can be done simultaneously, measures to speed up the process are undoubtedly needed. Procedure 2: Request and obtain a location permit from the municipality takes the longest time, 150 days. The next most time-demanding procedure, Request and obtain a construction permit from the municipality, assumes 80 days to complete. If actions were taken to shorten the time to complete the procedures to 200 days, the result would be improvement of 47 places in the standings to 56th place.

A coordinated effort of lowering the number of procedures to 8, fastening the process to 200 days and legal actions resulting in the maximum value of Building Quality Control Index would mean that Slovakia could move to 7th place. This indicator is a good example that by using a systemic approach to the problem, the country can significantly improve its place in the rankings.

Starting a Business

The second largest year-on-year fall in the rankings affected the Starting a Business indicator, from 64th place in Doing Business 2016 to 68th place in Doing Business 2017. However, similarly to the Dealing with Construction Permits indicator, the Distance to Frontier score improved in a limited extent from 88.54 points in Doing Business 2016 to 88.62 points in 2017 edition (World Bank 2016f).

The indicator tracks time, costs, number of procedures and paid-in minimum capital needed to set up a limited liability company with five domestic owners and 10 – 50 employees. The resulting Distance to Frontier score is a simple average of the four sub-indicators' own Distance to Frontier scores (World Bank 2016e).

Tab. 4: Slovak Republic and the Starting a Business indicator

Number of procedures	Cost	Time	Paid-in minimum capital
6	0,1 % of the income per capita	11.5 days	17.8 % of the income per capita

Source: based on the data in Doing Business 2017

As for the number of procedures, procedure 1: Check the uniqueness of the proposed company name, is not legally required and the research in the Commercial Register does not guarantee that other company with the same name as intended for the case study company would not be registered in the time between the research result is issued and the case study company really files for its own registration. Therefore, the act of company name uniqueness check should not be counted as a procedure. Other potential measure is the inclusion of procedure 2: Notarize articles of association and related documents into procedure 4: Apply at the One-stop shop for trade license, register for income tax and with the District Court. The notarization at the One-stop shop is also cheaper than at the notary (1.50 € per signature at the

One-stop shop compared to 2.39 € at the notary). If the World Bank accepted these changes, the number of procedures would lower to four, which would result in the improvement of 19 places in the rankings to the 49th place.

Another direction where the measures can be taken is the time to complete the procedures. If the World Bank would accept the aforementioned explanations and abolish procedure 1 and combine procedures 2 and 4, it would lower the time to 8 days, which would mean the shift from 68th to 62nd place. However, lower number of procedures and shorter time to complete them is interconnected. In the case of 4 procedures and 8 days to complete them Slovakia would improve its position to the 39th place, 29 places higher than the current situation.

Other potential measures can aim the further reduction of the number of procedures. The services of the One-stop shop could be extended by the possibility to obtain a form showing the partners' tax arrears (procedure 5, currently done at the Tax Authority Office) and to register with pension, sickness and disability insurance and unemployment insurance (procedure 6, currently done at the Social Insurance Agency). In this case, there would be only 2 procedures needed to starting a business in Slovakia.

As for the costs, there is a possibility to lower the fee for Court registration of the company (currently 150 €) and to set a lower threshold for the paid-in minimum capital.

Getting Credit

Getting Credit is the indicator with the second largest fall in the rankings – 21 places since 2013. The Distance to Frontier score remained unchanged compared to Doing Business 2016 at 65.00 points (World Bank 2016f). The indicator tracks performance in two indices. The Strength of legal rights index investigates collateral laws as a means of borrowers and lenders' rights protection and bankruptcy laws as a means of secured creditors' rights protection. This index deals predominantly with a non-possessory security right, collateral registries and the status of secured creditors. The Depth of credit information index focuses on the data being gathered on individuals, companies and their credit history. The overall Distance to Frontier score is calculated for the sum of Strength of legal rights index and Depth of credit information index (World Bank 2016d).

Tab. 5: Slovak Republic and the Getting Credit indicator

Strength of legal rights index (max. 12)	Depth of credit information index (max. 8)
7	6

Source: based on the data in Doing Business 2017

Concerning Strength of legal rights index, potential measures to improve the standings of Slovakia include the creation of unified legal framework for secured transactions, including

functional equivalents to security interests in movable assets, the extension of security rights to future or after-acquired assets, the creation of notice-based collateral registry in which registrations, edits and searches can be performed online by an interested third party (secured creditors or their representatives) or introduction of an automatic stay on enforcement for secured creditors in case debtor's reorganization procedure, along with the conditions of the automatic stay termination. As for the Depth of credit information index, the score could be improved if credit history data from retailers and utilities would be distributed along with information from financial institutions. However, it cannot be agreed that credit data on both firms and individuals are not distributed in Slovakia, as the World Bank states. The Non-banking Register of Client Information collects data on individuals, individual entrepreneurs and companies as well (Non-Banking Credit Bureau 2017). One-point improvement in any of the indices would result in 32nd place for Slovakia, 12 places higher than the current standings. The change would be similarly significant in case of the two-point improvement which would result in 20th place (24 places higher than the current standings).

Comparison of the competitiveness rankings

There are several similarities in the World Bank (WB) and the World Economic Forum (WEF) rankings. For example, the protection of minority investors in Slovakia is assessed negatively in both of them (WB – 87th place, WEF – 99th place). Another similarity is in the Starting a Business indicator – number of procedures (6) and time (11.5 days) is the same in both rankings. Slovakia placed 68th in Doing Business 2017 and 54th (number of procedures) and 71st (time to start a business) in Global Competitiveness Index (GCI), respectively. Some other aspects of WEF assessment are either parts of Doing Business indicators or deal with similar topics, e.g., total tax rate as percentage of profits, ease of access to loans or quality of electricity supply. Nevertheless, Global Competitiveness Index investigates broader range of issues than Doing Business, which is predominantly focused on the regulatory framework in the countries. GCI calculates also with macroeconomic indicators, quality of institutions, health and education systems or innovation. The most pressing issues in doing business in Slovakia according to WEF are corruption, tax rates, inefficient government bureaucracy and tax regulations.

The improvement of Slovakia's competitiveness in the rankings depends on several factors. First of all, not every measure to improve business environment would be mirrored in the improved standings, as the indicators are focused on rather specific topics. Communication with the World Bank would be necessary if the disputable issues shall be solved and accepted from the Slovak point of view. However, some of the proposed measures would result in more

points in the rankings, but the business environment would not benefit at all. This is the case of the required university degree for the professionals conducting technical inspections during construction. Long term experience in Slovakia shows that the high school degree with longer practice is sufficient to conduct technical inspections. The change of Doing Business methodology might therefore be suitable in some cases. As both of the rankings take into account the opinions of companies and managers to a large extent, the awareness of their possibilities within the regulatory framework must be given a priority. In many cases, entrepreneurs do not make use of all the opportunities that Slovak legislation and public services provide for them. Notarization of the articles of association at the One-stop shop might be a suitable example.

Competitiveness rankings, especially Doing Business are given high importance in Slovakia. The Ministry of Economy of the Slovak Republic has established the Working Party on Doing Business, aimed to propose and approve measures to improve not only Slovakia's placement in the rankings, but also the business environment as a whole. Since the Ministry of Economy does not have enough competences in various policies influencing business environment (e.g., employment or taxation), the outcomes of the Working Party activities depend on cooperation with other ministries and state bodies.

Slovakia has placed in the top ten in only two of the Doing Business indicators: Trading across Borders and Registering Property. The improvement of other standings will depend on the coordinated effort of ministries and other public governance entities to change and simplify the regulatory framework and to reduce the administrative burden of businesses. Nevertheless, this is only one part of the solution. The changes must be also communicated to entrepreneurs in Slovakia, because often it is their opinion which matters the most for the organizations assessing the country's competitiveness.

ACKNOWLEDGEMENT

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Revealed Comparative Advantage Index: A Comparative Analysis of Export Potential of Textiles Industry in India and Czech Republic

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Abstract: India's Textiles and Clothing sector remains one of the strongest segments of the economy and is amongst the largest contributors to India's total exports. The textile and clothing industry in the Czech Republic also accounts for substantial percent of manufacturing activity in the country in terms of sales and employment. It also accounts for a significant share of exports too. With the phase, out of Multi Fibre Agreement (MFA) in 2005, the textiles exports of all the textiles rich nations improved, including that of India too. The aim of this paper is to analyse and evaluate the ex-port potentials and competitiveness of the Indian textiles in relation to the textiles exports of Czech Republic from 2005 to 2014, which is the period showing highest increase in exports after dismantling of MFA. Revealed Comparative Advantage (RCA) index is used to determine the development of textiles industry of both the countries. The RCA index is used in international economics to calculate export potential and relative advantage or disadvantage of a certain country in certain class of goods or services. The findings show that India's export potential for textiles have continuously improved in the post MFA period and the industry has strong comparative advantage in terms of textiles exports of Czech Republic. Policies need to be strengthened to meet out the global challenges by textiles exporters of both the countries after the phase out of MFA.

Keywords: Multi Fibre Agreement (MFA), revealed comparative advantages (RCA), textiles exports

JEL Classification codes: F1, F6

INTRODUCTION

India's always enjoyed warm and cordial relations with the former Czechoslovakia, and with the new Czech Republic. Both the countries witnessed the relations bilaterally, as well as within the framework of Indo-EU relations. At the same time, they enjoyed rapidly growing trade and economic relations. Over the four decades since independence, Czechoslovakia was a major economic partner, establishing many of major industrial projects in India in fields of energy, metallurgy, ma-chine tools and in defense (IMC-Economic Research & Training Foundation 2017). With the formation of the Czech Republic on January 1, 1993, the switch to payments in freely convertible currencies and the liquidation of large state owned

companies in the Czech Re-public led to a decline in trade but soon the trade between the two countries started observing an upswing.

Tab. 1: Total Exports and Imports between India and Czech Republic from 2010- 2016 (Values in US$ Million)

Years	Import from Czech Republic	% Change	Export to Czech Republic	% Change
2009-2010	2,88,372.87	-5.05	1,78,751.43	-3.53
2010-2011	3,69,769.12	28.23	2,49,815.55	39.76
2011-2012	4,89,319.48	32.33	3,05,963.92	22.48
2012-2013	4,90,736.64	0.29	3,00,400.58	-1.82
2013-2014	4,50,199.78	-8.26	3,14,405.30	4.66
2014-2015	4,48,033.40	-0.48	3,10,338.48	-1.29
2015-2016	3,81,006.62	-14.96	2,62,290.13	-15.48

Source: Government of India, Ministry of Commerce & Industry, Department of Commerce (Export Import Data Bank Version 7.1 - Tradestat, 20-01-2017, http://commerce.nic.in/eidb/Default.asp

India-Czech Republic bilateral trade has shown signs of growth right from the early days and that has resulted in signing of Double Taxation Avoidance Agreement in 1998 and further progress set a layout for Social Security Agreement and Protocol on Amendments to Bilateral Investment Promotion and Protection Agreement (BIPPA) as well as Agreement of Economic Cooperation signed in the year 2010 to further encourage trade (IMC-Economic Research & Training Foundation 2017). The trade has been steadily growing since 2010-11. Even though the recent statistics show that there is decrease in the trade activities, the overall relations are progressive. The need for economic development has imparted importance to the bilateral economic and commercial linkages be-tween both the countries.

Both countries hold a strong textiles base and export substantially to other markets. The dismantling of MFA (Multi Fiber Agreement) gave subsequent boost to textiles exports throughout the world, especially textiles rich nations. India too benefitted and its exports witnessed a record increase over this time when compared to any other period. Since1974, the Multi-Fibre Arrangement (MFA) governed the international textiles and apparel trade. A large portion of textiles and clothing exports from developing countries were subject to bilaterally negotiated quotas. In January 1995, the World Trade Organization (WTO) put into effect a new agreement that replaced the MFA called the Agreement on Textiles and Clothing (ATC). This was a 10-year plan to phase-out the MFA (Multi Fiber Agreement) system of quotas and integrated textiles and garments into the General Agreement on Tariffs and Trade (GATT) rules (Chaudhary, 2011). The ATC, which was preceded by seven years of complex negotiations, was the transitional tool that facilitated quota removal. Once the quota restrictions were over, the products applied to were subject to the WTO's regular rules of

world trade. With the expiry of the ATC on 1 January 2005, global apparel trade was no longer subject to quantitative restrictions (Fukunishi, Goto &Yamagata n.d).

As the MFA phased out, the global apparel and textiles market both expanded in value and consolidated in supplies. The top ten developing country suppliers now make up 58% of global apparel exports, with Asian suppliers accounting for 52% in 2011 (Fukunishi, Goto &Yamagata n.d). The scrapping of quotas in world trade of textiles bolstered growth for the sector in India too. In the post quota period, the Indian industry size expanded from $8331 million in 2005 to $9617 million in 2007. It increased to $18340 million in 2014 (WTO databank 2016).

Textiles Industry of India

India's Textiles sector remains one of the strongest segments of the economy. Even today, textiles sector is one of the largest contributors to India's exports with approximately 11 % of total exports. The industry realized export earnings worth US$ 41.4 billion in 2014-15, (Ministry of Textiles, 2015), a growth of 5.4% [4].

Tab. 2: Indian Textiles Exports, Total Merchandise Export and Ratio of Textiles to total Merchandise Exports from 2005-2015 (US$ in millions)

Year	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
ITE	8331	8880	9617	10372	9111	12833
ITME	78110	121808	150159	194828	164909	226351
ITE/ITME	0.1066	0.0729	0.0640	0.0532	0.0553	0.0567
Year	**2011**	**2012**	**2013**	**2014**	**2015**	
ITE	15340	15348	17417	18339	17289	
ITME	302905	296828	314848	322694	267147	
ITE/ITME	0.0507	0.0517	0.0553	0.0568	0.0647	

Source: http://stat.wto.org/StatisticalProgram/WSDBViewData.aspx?Language=E

*ITE = Indian Textiles Export, ITME = Indian Total Merchandise Export, ITE/ITME = Ratio of total textiles exports to total merchandise exports

The above table reveals that there is a tremendous increase in the Indian textiles exports after the phase out of MFA i.e 2005. It has gone up from 8331 (US$ in millions) to 17289 (US$ in millions), i.e. by 108% (an overall increase), more than double in next 10 years. Though the ratio of textiles exports to total merchandise exports have gone down. This is due to rise in total merchandise ex-ports too from India during same period.

Textiles Industry of the Czech Republic

[4] As per the Cotton Textiles Export Promotion Council (Texprocil)

The textile and clothing industry in the Czech Republic accounts for 1.9% of total manufacturing activity in the country in terms of sales, and provides 5.1% of manufacturing employment. It also accounts for a significant share of exports. Some 80% of the textiles and clothing produced by the industry is sold abroad, mainly to EU countries. Czech textile and clothing firms benefit within the EU from their proximity to major markets. This gives them a distinct advantage in an age of quick response and short fashion cycles over their Asian competitors (Textile Outlook International 2008). The table below reveals an increase in the textiles exports but at a slow rate:

Tab. 3: Czech Republic's Textiles Exports, Total Merchandise Export and Ratio of Textiles to total Merchandise Exports from 2005-2015 (US$ in millions)

Year	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
CRTE	2049	2222	2536	2787	2130	2269
CRTME	78110	94929	122498	146799	112955	132982
CRTE/CRTME	0.02623	0.0234	0.0207	0.0190	0.0189	0.0170
Year	**2011**	**2012**	**2013**	**2014**	**2015**	
CRTE	2668	2424	2543	2741	2430	
CRTME	162939	157041	162274	175095	158164	
CRTE/CRTME	0.0164	0.0154	0.0157	0.0157	0.0154	

Source: http://stat.wto.org/StatisticalProgram/WSDBViewData.aspx?Language=E

*CRTE = Czech Republic's Textile Export, CRTME = Czech Republic's Total Merchandise Export, CRTE/CRTME = Ratio of total textiles exports to total merchandise exports

The paper goes in to examine the developments in export potential of textiles industries of both the countries after phase out of MFA. Further it also tests the Revealed Comparative Advantage of Indian textiles in world's textiles trade. The chosen metric for analysis is the Revealed Comparative Advantage (RCA) Index. The period taken up for the study is post MFA i.e. from 2005 to 2014. The aim of this paper is to evaluate and analyse the export competitiveness of Indian textiles exports in comparison to the textiles exports of the Czech Republic from 2005 to 2014.

1 OBJECTIVES

The main objectives of the paper are:

1. To analyse the development in the export potential of the Indian Textiles industry in the last 10 years after the phase out of MFA.
2. To analyse the development in the export potential of the Textiles industry in Czech Republican the last 10 years after the phase out of MFA.
3. To study the Revealed Comparative Advantage Index of Indian textiles exports in relation to the textiles export of Czech Republic.

2 THEORETICAL FRAMEWORK AND REVIEW OF SELECTED LITERATURE

In recent times, export performance analysis has become very necessary and important in context to globalization and open market. The research techniques in this area are very diverse in terms of methodology and empirical approaches in attempts to draw conclusions regarding export performance (Zou & Stan 1998). RCA index is one of the attempts towards that. It is based on the Ricardian comparative advantage concept (Wikipedia RCA n.d). Another variation of the RCA index is the model suggested by Donges and Riedel (Donges and Riedel. "the expansion of manufactured exports in developing countries: an empirical assessment of supply and demand issues", 58-87) (RCA Indices n.d) where both export and import is included. The RCA index suggested by Bowen (Bowen, "on the theoretical interpretation of indices of trade intensity and revealed comparative advantage", 464-472) (RCA Indices n.d) considers the production of a particular country and net trade (i.e. production minus consumption). The RCA indices suggested by vollrath, "a theoretical evaluation of alternative trade intensity measures of revealed comparative advantage." (265-280) (RCA Indices n.d) Hishamunda, Junning & Pingsung, "Assessment of comparative advantage in aquaculture: framework and application on selected species in developing countries" measure ex-ports and imports in relation to the rest of the world, (69).

Some of the works published in this area are the " Revealed Comparative Advantage: An Analysis for India and China" by Amita Batra and Zeba Khan, (Batra & Khan 2005); "Revealed comparative advantage and competitiveness in services: A study with special emphasis on developing countries", by (Seyoum 2007); "Empirical Analysis of Agricultural Exports Competitive of Henan Province"(Springer Link 2015); "Determinants of revealed comparative advantages: the case of cheese trade in the European Union"(Balogh & Jámbor n.d.); "Uganda's Revealed comparative advantage in Comesa" by miriam Katunze and annette Kuteesa; (Katunze & Kuteesa 2016); "Revealed Comparative Advantage Index: An Analysis of Export Trade in the Austrian District of Burgenland" by Doris Granabetter, (Granabetter 2016); "Revealed Comparative Advantage Index: An analysis of Export Potential of Indian Textiles Industry in the Post MFA Period" by Dr. Asiya Chaudhary, (Chaudhary 2016).

3 METHODOLOGY

A quantitative, descriptive approach is adopted under the study. For the purpose of analysis, data and information collected during course of the study is obtained from secondary sources. All data is collected from WTO databank and Government of India, Ministry of Commerce &

Industry and Department of Commerce. The study used data of Total Textiles Exports from India for past 11 years (2005 to 2015), Exports of total merchandise from India, Total Textiles Exports of the Czech Republic and Exports of total merchandise of the Czech Republic.

All data is taken for the period of 11 years i.e. 2005 to 2015. This period was taken because 2005 is a landmark year in the history of textiles world. The textiles exports witnessed a boost after the MFA phased out in 2005 throughout the globe.

The data is analyzed with the help of accounting tool 'Revealed Comparative Advantage' index. It is an index used in international economics for calculating the relative advantage or disadvantage of a certain country in a certain class of goods or services as evidenced by trade flows. It is based on the Ricardian comparative advantage concept (Wikipedia RCA, n.d). It is used in international economics to calculate the relative advantage or disadvantage of a certain country in a certain class of goods or services. Measures of revealed comparative advantage (RCA) have been used to help assess a country's export potential. The RCA indicates whether a country is in the process of extending the products in which it has a trade potential, as opposed to situations in which the number of products that can be competitively exported is static (Trade Indicators n.d).

RCA most commonly refers to an index introduced by Béla Balassa (1965): RCA=(eij/eit)/(enj/ent)

where:

e	Exports
i	country index
n	set of countries/ world
j	commodity index
t	set of commodities/ Total commodities

In this case i (country index) is India, n (set of countries/ world) to compare is Czech Republic, j (commodity index) is Textiles and t (set of commodities/ Total commodities) is total merchandise.

A comparative advantage is "Revealed" if RCA>1. If RCA is less than unity, the country is said to have a comparative disadvantage in the commodity or industry. (Wikipedia RCA, n.d)

For the study abbreviations used for data in the above equation are as:

ITE - Indian Textiles Export(eij)

ITME - Indian Total Merchandise Export (eit)

CRTE - Czech Republic's Textile Export (enj)

CRTME - Czech Republic's Total Merchandise Export (ent)

The following Hypotheses are framed to verify and accomplish the objectives of the paper:

1. The export potential of the Indian Textiles industry has continued to develop over the past 11 years after the phase out of MFA and has significantly improved across the selected years.
2. The export potential of the Czech Republic's Textiles industry has continued to develop over the past 11 years after the phase out of MFA and has significantly improved across the selected years.
3. India has a Revealed Comparative Advantage in textiles exports over the total textiles exports of the Czech Republic.

4 STUDY RESULTS

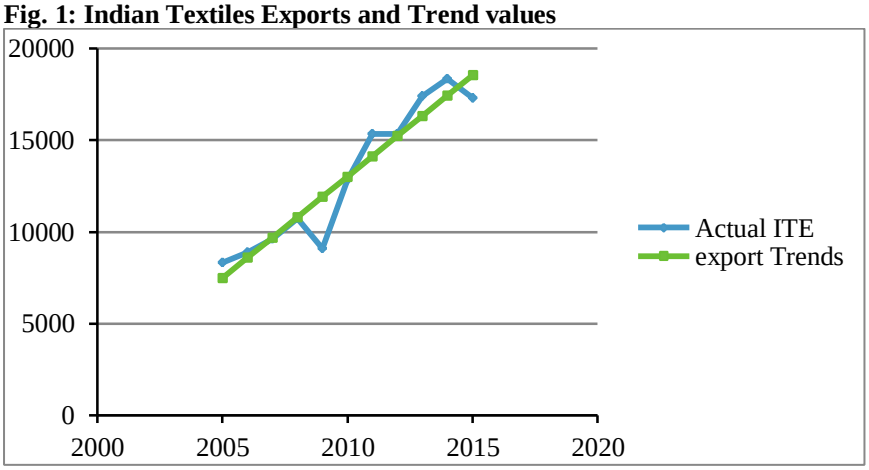
1. The first Hypothesis of the paper is achieved by doing the Trend Analysis of ratio of Indian textiles exports to total merchandise exports (as per Table 2) in table 4. These values were further placed on figure 1 given below:

Tab. 4: Trend values computed based on Indian Textiles Exports since 2005 to 2015

Year	ITE(Y)	X	X2	XY	Trend Value
2005	8331	-5	25	-41655	7499
2006	8880	-4	16	-35520	8604
2007	9617	-3	9	-28851	9708
2008	10732	-2	4	-21464	10813
2009	9111	-1	1	-9111	11917
2010	12833	0	0	0	13022
2011	15340	1	1	15340	14126
2012	15348	2	4	30696	15230
2013	17417	3	9	52251	16335
2014	18339	4	16	73356	17439
2015	17289	5	25	86445	18544
	143237	0	110	121487	

Source: self-developed based on calculation of trend values with the formula:

Fig. 1: Indian Textiles Exports and Trend values



Source: self-developed based on calculation of trend values

The table and graph reveals tremendous increase in the textiles export from India during the selected period. The trend values have sharply improved from 7499 in 2005 to 18544 in 2015 presenting a more than double rise in 10 years. Hence, first Hypothesis: The export potential of the Indian Textiles industry has continued to develop in the last 11 years after the phase out of MFA, is verified and confirms the first objective of the research paper.

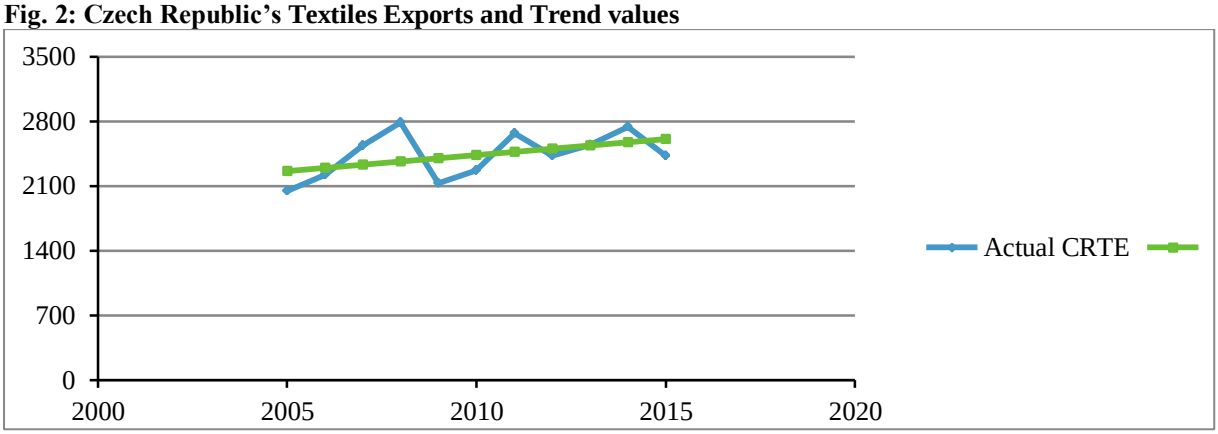
2. The second Hypothesis of the paper is also achieved by doing the trend analysis of ratio of textiles exports of Czech Republic to total merchandise exports (as per table 3) in table 5. These values were further placed on figure 2 given below.

Tab. 5: Trend values computed based on Czech Republic's Textiles Exports since 2005 to 2015

Year	CRTE(Y)	X	X2	XY	Trend Value
2005	2049	-5	25	-10245	2263
2006	2222	-4	16	-8888	2298
2007	2536	-3	9	-7608	2332
2008	2787	-2	4	-5574	2367
2009	2130	-1	1	-2130	2402
2010	2269	0	0	0	2436
2011	2668	1	1	2668	2471
2012	2424	2	4	4848	2506
2013	2543	3	9	7629	2540
2014	2741	4	16	10964	2575
2015	2430	5	25	12150	2610
	26799	0	110	3814	

Source: self-developed based on calculation of trend values

Fig. 2: Czech Republic's Textiles Exports and Trend values



Source: self-developed based on calculation of trend values

The table and graph reveals a gradual but slow increase in textiles exports from Czech Republic in the past 11 years. Hence, second Hypothesis: The export potential of the Czech Republic's Textiles industry has continued to develop over the past 11 years after the phase out of MFA, is verified and confirms the second objective of the research paper.

Though both the Hypotheses confirm the first and second objectives, there is a wide gap in the rate of increase (trend values) in exports as visible in the graph 1 and 2. There is a tremendous increase in India's exports but a very slow increase in exports from Czech Republic.

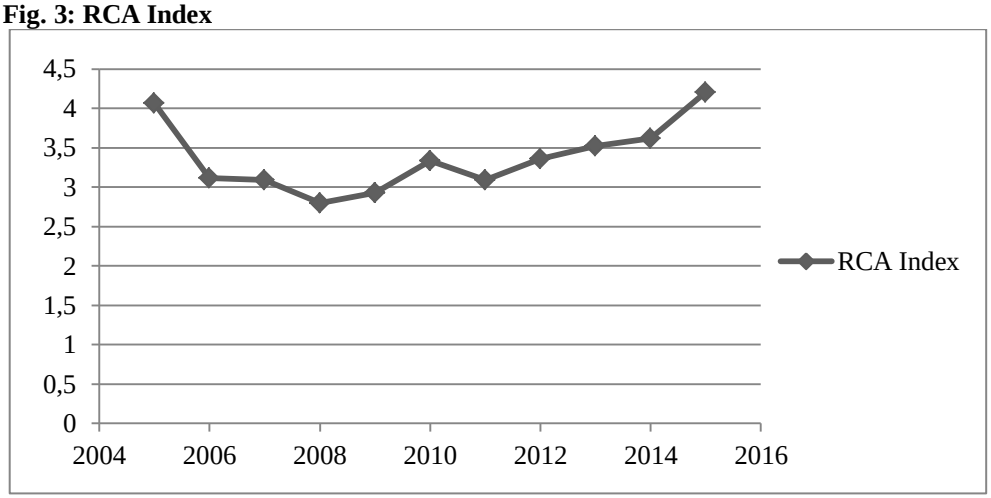
3. To verify the third Hypothesis, the calculation of the RCA index was carried out by applying the data of Indian textiles exports and textiles exports of Czech Republic.

Tab. 6: RCA index from 2005-2015

Year	CRTE	CRTME	ITE	ITME	ITE/ITME	CRTE/CRTME	RCA
2005	2049	78110	8331	78110	0.1066	0.02623	4.064
2006	2222	94929	8880	121808	0.0729	0.0234	3.115
2007	2536	122498	9617	150159	0.0640	0.0207	3.092
2008	2787	146799	10372	194828	0.0532	0.0190	2.8
2009	2130	112955	9111	164909	0.0553	0.0189	2.926
2010	2269	132982	12833	226351	0.0567	0.0170	3.335
2011	2668	162939	15340	302905	0.0507	0.0164	3.091
2012	2424	157041	15348	296828	0.0517	0.0154	3.357
2013	2543	162274	17417	314848	0.0553	0.0157	3.522
2014	2741	175095	18339	322694	0.0568	0.0157	3.618
2015	2430	158164	17289	267147	0.0647	0.0154	4.201

Source: self-developed based on calculation of ratio and RCA

Fig. 3: RCA Index



Source: self-developed based on calculation of ratio and RCA

The third and last objective of the paper is achieved by applying the RCA index. The results are based on RCA index and comparing it to the standard value 1. During the selected study period i.e. from 2005-2015, the value of RCA remains more than one continuously. On computing the RCA index in table 6, it was discovered that the RCA index has subsequently fell under the study period till 2009, later on it improved and remained approximately constant till 2014 and again increased in 2015. It was 4.064 in 2005 and gradually moved down to 2.8 in 2008. Subsequently from 2009 onwards it started improving from 2.926 to 4.201 in 2015. This signifies that the potential for ex-ports of textiles in India is very strong over Czech Republic's textiles exports. Dismantling of MFA has proved to be a booster to the Indian Textiles Industry. Since RCA index remains between 4.064 and 4.201 (>1), during the period under study, it signifies that Indian textiles exports have very strong comparative advantage in relation to Czech Republic's textiles exports. Hence the third Hypothesis: India

has a revealed comparative advantage in textiles exports to the total textiles exports of the Czech Republic, is verified and positively confirms the third objective of the paper.

CONCLUSION

On basis of study results it can be concluded that India has strong revealed comparative advantage over Czech Republic in terms of textiles exports. This exhibits India's strong potential in terms of production as well as exports. Czech Republic can benefit from this situation. In order to strengthen trade between the two nations, textiles may be a good choice where Czech Republic can boost its textiles imports from India which is much more cost competitive. India must explore Czech Republic's market, too and understand the nature of demand in order to penetrate in to its market. More avenues must be explored in order to strengthen ties between both nations.

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Impact of Falling Raw Energy Materials Prices on Their Import from Russia to the EU

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Abstract: Demand of developed EU economy greatly exceeds its ability to supply raw energy materials from its own natural resources. Since the EU is highly dependent on import of oil and natural gas, it ranks among the biggest importers of these commodities in the world. The most important partner of the EU is Russia, whose oil and natural gas resources rank among largest in the world. The overview of current statistical indicators of foreign trade with oil and natural gas between the EU and Russia can induce the impression that the EU demand for Russian supplies is significantly decreasing in recent years. The aim of this paper is to point out the real impact of falling energy materials prices on their import from Russia to the EU, through the comparison of financial and volume indicators of foreign trade.

Keywords: oil, natural gas, EU, Russia

JEL Classification codes: F10, F20, F50

INTRODUCTION

Economic dependence of the EU on oil and natural gas is mainly determined by the lack of its own raw material base and demand significantly exceeding its own production. With population of more than 500 million people, the EU is one of the biggest world consumers of energy resources. With the gradual decline in domestic production of raw energy materials (except renewable energies), the European dependence on their import is still increasing. Currently, import covers up to 90% of oil and 66% of natural gas consumption of the EU. Slightly more favourable situation is in the case of coal (42%) and nuclear energy (40%). As a result, the EU is one of the leading importers of energy resources in the world. (Ružeková 2016). The European Commission estimates that the growing trend of import dependency on energy raw materials will continue in the following decades. Energy therefore belongs to one of the key subjects of the EU and issues related to energy security and territorial diversification of energy sources are among the central issues of the negotiations within the EU.

Energy security of the EU, particularly in relation to oil and gas, is highly dependent on their imports from the third countries. High import dependency, however, entails potential risks to member states of the EU. The EU therefore devotes considerable attention to the issues of

ensuring its energy security (Obadi 2015). The most important tool is the territorial diversification of import of energy resources. Nowadays, the biggest importers of oil to the EU are Russia, Norway, Nigeria, Saudi Arabia and Kazakhstan. The largest importers of natural gas to the EU are Russia, Norway, Algeria, Qatar and Libya.

An important part of trade in energy materials is their price, which is then the decisive determinant of consumption and demand. Development of energy prices is an important indicator for the member states of the EU since their impact on the economy is obvious. Since mid-2014, we are witnessing a unique situation when the oil price, which had held above the level of 100 USD / barrel, recorded a sharp decline. Consequences consist in reducing the price of petroleum products themselves and commodities indexed to oil prices, such as natural gas. As oil and natural gas are among the main import commodities of the EU, the decline of their prices was also reflected in the foreign trade statistics.

The most obvious example is the European import from Russia. Russia, whose oil and natural gas reserves are among the largest in the world, is the largest importer of energy resources to the EU. Some of the EU member states are still highly dependent on supplies of oil and gas solely from Russia. These are the countries of Central and Eastern Europe that are associated with Russia energy corridors from the times of the former Soviet Union. The EU recognizes this high dependence and to increase its energy security is trying to diversify suppliers of energy resources (European Commission 2016).

The total import of the EU, as well as its import of crude oil and natural gas from Russia has declined sharply in recent years. The aim of this paper is to analyze the energy imports from Russia and to compare them from the financial and quantitative point of view.

1 LITERATURE REVIEW AND METHODOLOGY

To fulfil the objectives of this research paper, various theoretical research methods have been used, with the most important ones being the method of abstraction, analysis, synthesis, induction and deduction. At the same time, numerous empirical methods have been applied, particularly the method of comparison that was used to compare trade flows between the EU and Russia. For getting a more comprehensive insight into developmental trajectories of foreign trade relations have been used special methods and techniques, such as exact or graphic display.

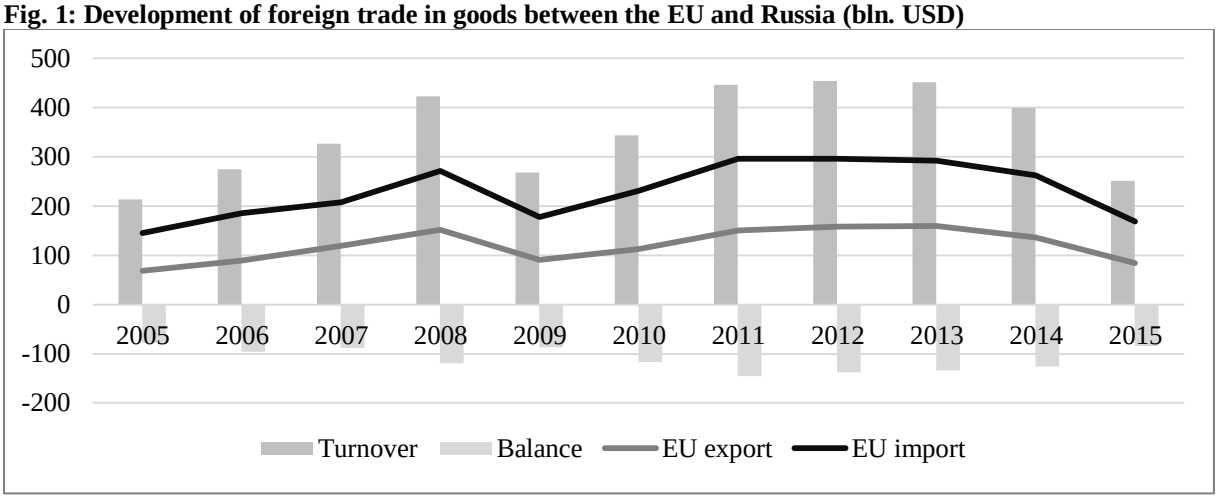
The issue of trade with oil and gas is very complex and it is researched by many authors. Since this sector is undergoing dynamic development, the major sources of information were the electronic resources. In this work were also used information from conference

proceedings, studies and analyzes. Important sources of information were, namely, the analyses of L. Franza (2016), B. Stanová (2016) or C. Locatelli (2013). From book sources, of particular significance were those written by P. Baláž (Baláž et al. 2012) and M. Tamvakis (2015). Of equal importance to this research paper were also numerous scientific and position papers as well as impact studies. Statistical data have been obtained from statistical systems of the EU, Gazprom and UNCTAD. Data published by Gazprom in statistical yearbooks between years 2007 and 2015 and data by UNCTADstat were used in order to analyze development tendencies of trade between the EU and Russia.

2 ANALYSIS OF FOREIGN TRADE BETWEEN THE EU AND RUSSIA FOCUSING ON ENERGY SECTOR

Russia has long been one of the most important trade partners of the EU. Based on the volume of foreign trade exchange of goods, Russia was the fourth largest trade partner of the EU and the EU was the largest trade partner of Russia. In terms of the territorial structure of foreign trade of the EU, Russia was its third largest export partner and fifth largest import partner. (Kašťáková 2016)

Fig. 1: Development of foreign trade in goods between the EU and Russia (bln. USD)



Source: Processed by the authors according UNCTAD data

The total volume of 2015 mutual foreign trade exchange in goods reached more than 251.5 billion USD, which in relative terms represents almost 6% of total EU external trade. However, it recorded a 37 % drop compared to 2014, when it reached a turnover of foreign trade value of 399.73 billion. The EU exports to Russia reached 83.45 billion. USD (4.1% share of total EU exports) and imports reached 168.05 billion USD (7.9% of the EU import). The EU has a long-term trade balance deficit with Russia, mainly due to imports of energy resources. Even EU export and import decreased in 2015 - in the case of export there was a

39% decrease, and import decreased by 36% compared to 2014. In the long-term, the largest share of EU export to Russia consists of machinery and transport equipment (especially automobiles), chemicals and other industrial products. EU imports from Russia are diversified in a much lower degree. In 2015, 70% of EU imports consisted of crude materials, especially oil and gas.

Undoubtedly dominant position in mutual trade relations has a trade with energy materials. The EU imports significant quantities of oil, natural gas, uranium and coal from Russia every year. In 2014, in terms of imports of energy materials, 30.4% of oil, 37.5% of natural gas and 29.0% of EU fossil fuels were imported from Russia. Besides the oil and natural gas, an important element of mutual foreign trade relations is nuclear power. In 2014, Russian uranium accounted for 18 % of the European import of this commodity. Nuclear plants in Finland, the Czech Republic, Slovakia, Hungary and Bulgaria were built by Russians, while Slovakia, Hungary and Bulgaria are overwhelmingly dependent on imports of nuclear fuel from Russia. However, EU's dependence on Russia is not unilateral. The Russian economy is existentially dependent on EU demand for its energy raw materials. Almost half of the Russian state budget, 70% of export revenues and 25% of GDP are generated by the energy sector (Baláž 2016).

Tab. 1: Development of Russian share on EU imports of energy materials between 2007 – 2014 (%)

Year	Oil	Natural Gas	Solid Fuels
2008	31,8	37,6	26,1
2009	33,6	33,1	30,0
2010	34,7	32,1	26,9
2011	34,8	34,9	26,2
2012	33,7	34,9	25,7
2013	33,7	41,2	29,0
2014	30,4	37,5	29,0

Source: European Commission 2017

During the previous years, Russia maintained a significant position in the imports of energy resources to the EU. The share of oil and natural gas, however, recorded a slight decline in 2014, but the share of solid fuels in the EU imports increased. Decline in the share of oil and gas on the EU imports from Russia tends to continue in the following years. One of the main reasons may be a drop in oil prices, whose effect is analyzed in the further text of the paper.

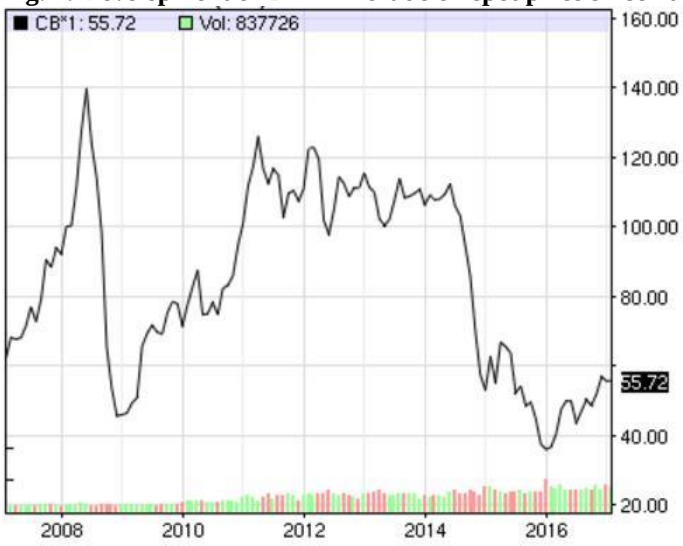
2.1 The development of oil prices in recent years

In the first half of 2014, the price of North Sea Brent crude oil, which serves as a major benchmark price for purchases of Russian oil, maintained above the level of USD 110 per barrel. Due to the significant excess of supply over demand of oil in world markets, its price

had dropped in five months (June 2014 - January 2015) by almost 60% to USD 46.07 per barrel (January 2015). Such a sharp drop in oil prices represents one of the most important global macroeconomic developments in recent years.

As can be seen in Fig. 2, the price of USD 46.07 per barrel was not the bottom. The decline in prices had continued until January 2016, when the lowest price reached USD 26.01 per barrel. The current spot price oscillates around USD 50 per barrel. There are few reasons why there has been such a significant decline in oil prices. The first reason was the appreciation of the US dollar as a result of acceleration of the growth rate of the US economy and the markets expectations regarding interest rate increase. The second reason was disagreement of OPEC member countries concerning the determination of production quotas. At its meeting in November 2015, the members did not agree to reduce production quotas aimed at reducing the supply and prevent further decline in oil prices. However, there are more reasons of oil prices decline. There was faster growth of world oil production than demand. Previous high oil prices and also the development of new technologies encouraged oil companies to open technologically and financially challenging drilling of unconventional oil deposits. Significant impact on the decline of oil prices has also decline in oil demand of major economies such as China, Japan and Europe (Tamvakis 2015).

Fig. 2: Development of BRENT crude oil spot price since 2007 (USD per barrel)



Source: NASDAQ

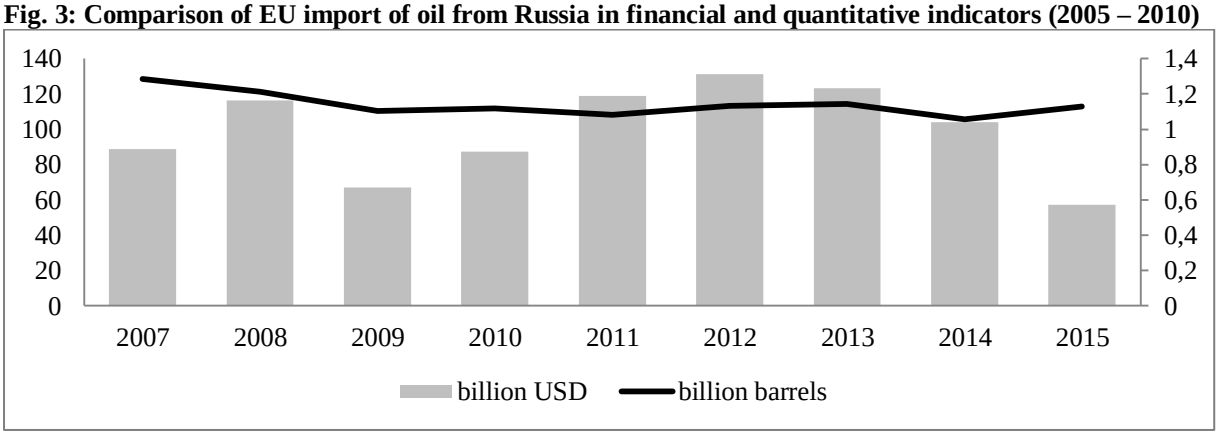
A significant increase in oil prices is not expected in the near future. There are few reasons. Although the oil extracting states led by OPEC agreed at the end of 2016 on the freezing of oil extraction, the stronger growth of oil prices prevents the possibility of extracting oil from unconventional sources. In the case of further increase of oil prices, the US mining companies

will be motivated to increase their production as a result of higher profitability of this type of extraction. Another important factor is still slowing growth rate of the Chinese economy, which is reflected in lower demand for oil.

2.2 Impact of the falling oil prices on EU import of oil and natural gas from Russia

Significant change in oil prices is automatically reflected in total value of bilateral trade between the EU and Russia. Whereas energy raw materials from Russia make up more than 70% of EU import, impact on statistical indicators will be relevant in this context. As a result of oil price decline, Russian oil has become cheaper for the EU. This has automatically reflected in the decrease of import volumes from Russia in EU financial indicators (USD). So the indicator does not capture the real EU demand for oil from Russia. Real demand of the EU can be captured on the basis of the quantitative volume of imported crude oil expressed in barrels. Figure 3 compares the EU import of oil from Russia in financial indicators (in USD) and in the quantitative indicators (in barrels).

Fig. 3: Comparison of EU import of oil from Russia in financial and quantitative indicators (2005 – 2010)



Source: Processed by the authors according Eurostat data.

Figure 3 shows that a real EU demand for oil from Russia, expressed in quantitative units is characterized by a high degree of indifference to changes in oil prices on world markets. It is largely constant in the long term. In 2015 the EU imported 1.13 billion barrels of oil from Russia. In the period of 2007 - 2015, the total volume of oil imported from Russia declined slightly, which can be attributed to the EU's efforts to diversify its energy suppliers and an effort to reduce the consumption of fossil fuels. Import volume expressed in billion USD replicates the changes in oil prices on world markets on a much higher degree. If the world price for a barrel of oil increases, the value of the total EU import in financial indicators increases as well and vice versa. In 2015, the EU imports of oil from Russia reached the value of USD 57.38 billion. In the times of high prices of oil in the years 2011 - 2013 (ranging from

100 to 120 USD per barrel), the total import of oil in financial indicators was also high (118-131 bn. USD). By contrast, in the times of low oil prices in the years 2014 - 2016 the total import of oil in financial indicators is much lower (Locatelli 2015).

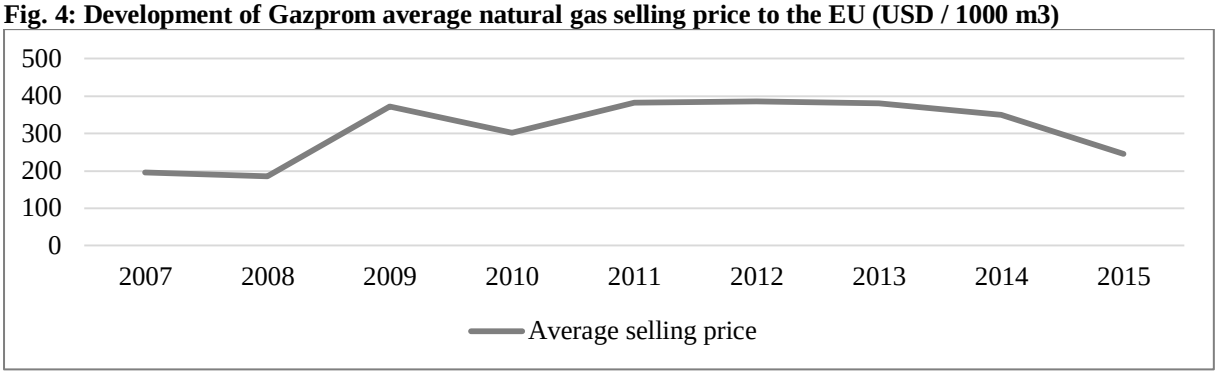
As in the case of oil, the largest importer of natural gas to the EU is Russia. Russian share on total EU imports of natural gas is approximately 40 %. Within the context of the previous analysis of falling oil prices in the previous part of the paper, the question is how it affects the gas prices and thus statistical indicators of foreign trade between the EU and Russia. The share of natural gas (SITC 34) on total imports of the EU from Russia amounted to almost 4% in 2015. It is thus relatively important commodity, whose price change may affect the overall mutual trade statistics between the EU and Russia. The exclusive importer of natural gas from Russia is semi-public company Gazprom.

To asses the impact of oil price changes on gas prices is rather challenging. Whilst oil markets are part of broader international markets (Kilian 2009), natural gas markets remain essentially regional (Li et al. 2014). However, the relationship between the development of oil and natural gas prices has long been considered as an important and stable since in gas trading price mechanisms, most of the contracts were based on indexation to oil. Due to the gradual transition to alternative forms of contracts pricing (gas contract on gas), however, this relationship weakens. Even today, as in the case of some countries in Central and Eastern Europe (V4 counties, Baltic countries and Finland) a significant portion of trade is still conducted through indexation to oil-based long-term contracts (in 2014 almost 20% of transactions). However, the EU seeks to liberalize the market, supports the development of hybrid financing structures and the growth of alternative forms of pricing mechanisms, contributing to the continued decline in traditional long-term contracts indexed to oil (Bunn et al. 2017).

In 2014, 32% of natural gas contracts in Central Europe was based on oil indexing. In Eastern Europe, this share was around 40% and in the south up to 60%. By 2010, wholesale gas prices in the EU were in the strong dependence on oil prices. The result of the dynamic development of spot transactions and the subsequent efforts of European suppliers of renegotiating long-term contracts with Russia has been that a significant proportion of the current long-term contracts is not directly linked to oil but to the development of a spot market. There are two types of gas pricing contracts in the EU nowadays - a spot price, which is much more volatile and reflects the immediate developments in supply and demand and the price of long-term contracts based on the indexing of prices to oil prices. Gazprom exports gas to Central and Western Europe mostly under long-term contracts of up to 25 years, usually based on

intergovernmental agreements (Stanová 2016). The recent development of average natural gas selling prices of Gazprom is presented in Fig. 4.

Fig. 4: Development of Gazprom average natural gas selling price to the EU (USD / 1000 m3)

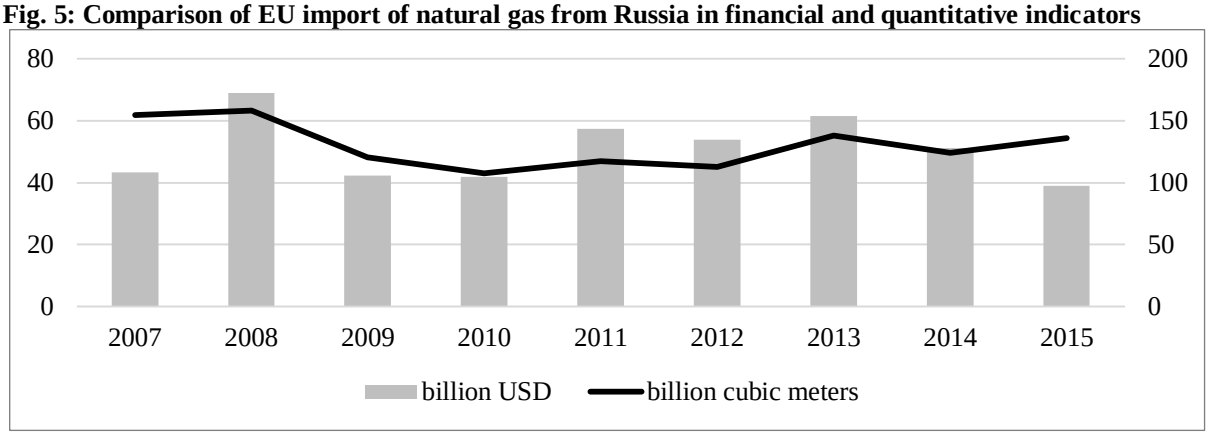


Source: Processed by the authors according Gazprom data.

In 2015, the average European import price of natural gas from Russia was 245.6 USD/1000 cubic meters. Compared to years 2014 and 2013, the average price fell by almost 30 % (2014), respectively 36 % (2013). The trend of gas prices liberalization is thus reflected in trade with Russia. During the last years, some countries in the eastern part of the EU have paid higher prices for their gas imports from Russia and have actively sought diversification. These countries lobbied the bridge within the EU institutions to launch an antitrust investigation against Gazprom in 2012 - it was accused of abuse of its dominant position and price discrimination. In spite of a few persisting divergences within the EU, the overall trend consists in the renegotiation of contracts and changes in indexation formulas, as the competition on the EU market increases. The drop of oil prices is also lowering import prices in countries that have not been able to secure access to alternative sources of gas or renegotiate their long-term contracts with Russia (for example Central European countries and Baltic countries). This suggests that while gas from Russia has become cheaper in the EU. Owing to structural adjustments, its affordability is still contingent on low oil prices (Franza 2016).

The fact that a major proportion of gas contracts between the EU and Russia is still indexed to oil, will also be reflected in the statistics of foreign trade, which is shown in the Fig. 5.

Fig. 5: Comparison of EU import of natural gas from Russia in financial and quantitative indicators



Source: Processed by the authors according the UNCTAD and Gazprom data

In absolute terms, the EU imports of the Russian gas (Carried out primarily through long-term contracts indexed on oil) have dropped since 2008 (-23 BCM in 2008-2015). This reflects the shrinkage in gas demand of the EU (-118 BCM in 2008-2015). When comparing the import of natural gas in the financial (USD) and quantity indicators (BCM), the parallel with the development of oil imports is obvious. The first decline in imports in financial indicators occurred during the crisis years of 2009 and 2010. However, as a result of the overall decline in economic activity in the EU, there was also a significant decline in imports in quantitative indicators. More interesting, however, is the look at the years of 2013 - 2015, when there was a decline in oil prices due to the above-mentioned factors. Import in financial indicators, decreased from USD 61.45 billion in 2013 to USD 38.95 billion in 2015, as opposed to import in volume indicators, which in turn between 2014 and 2015 increased by 9.5% (124 BCM to 135.8 BCM). We may conclude that, as in the case of oil, the development of financial and volume indicators import natural gas from Russia is somewhat indifferent. To catch the real import of the EU is therefore necessary to take into account the import volume.

CONCLUSION

Russia has always been an important trade partner of the EU. The major commodities in mutual trade relations are energy raw materials. On the one hand, the EU is dependent on imports of oil, natural gas, coal and uranium from Russia, on the other hand, the EU is a major export market ensuring stable revenues to the state budget for Russia. The recent sharp decline in oil prices on world markets has brought both positive and negative consequences for operators in the global economy. The negative consequences of low oil prices were recorded in the producing countries and oil-exporting led by Russia and the positive consequences for countries with high consumption and imports of oil, led by the EU.

Since oil and natural gas are one of the most important commodities of trade between the EU and Russia, the impact of the price changes is automatically reflected in the statistics of trade between the EU and Russia. Based on the comparison contained in this paper it can be concluded that the effect of changes in oil prices does not affect the real demand of the EU as might be assumed on the grounds of financial indicators. Analyses of oil as well as natural gas imports to the EU from Russia in the quantitative terms show that the total quantity of imported oil and natural gas are independent on the spot price of oil but is determined by the dependence of the EU economy on these energy materials. The analyses show finding that the decline in oil prices has a significant impact on the aggregate statistics of mutual trade expressed in financial indicators. In the quantitative volume, however there was no decline in EU imports. These findings are important to consider when analyzing the foreign trade between the EU and Russia and may be subject to deeper scientific research.

Further development of oil and natural gas prices will depend on several factors. We consider, that oil prices will mainly depend on OPEC politics and ability of its members to adhere their commitments towards maintaining the levels of oil production. Even if they will respect them, which is questionable, the higher growth in oil prices will be still limited by increasing extraction of oil from unconventional sources. The further development of natural gas prices is similar. With gradual liberalization, market diversification and declining share of long-term oil indexed contracts linked with transition to alternative forms of pricing, the natural gas prices are likely to decrease.

Potentially decreasing prices of oil and natural gas might support foreign trade exchange between the EU and Russia. However, a relation based mainly on trade with raw energy materials is not sustainable in the long terms. The fact that EU is focusing on diversification of its oil and natural gas, supplies may potentially threaten its foreign trade relations with Russia, since these energy commodities represent a major part of their trade relations. Thus, if partners want to maintain their relations, they should support higher diversification of their foreign trade relations.

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Sustainability in Values and Behaviour. Typology of Generation Y

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Abstract: The paper presents results of research study aimed at exploring the values and environment conscious behaviour among young people - Generation Y. The research used Shalom H. Schwartz´s value system scales as well as several additional scales in order to explore the extent to which the behaviour of Generation Y is sustainable. The data gathered by quantitative research were used to create value-behaviour typology of Generation Y.

Keywords: values, behaviour, typology, generation Y

JEL Classification codes: M31

INTRODUCTION

Thorough knowledge of consumers is an important prerequisite for creation of such products and services that will meet needs and expectations of target group. There are many studies that provide a description of consumers from different perspectives. The aim of this paper is to highlight the importance of values, because they have an impact on decision making and behaviour. We also present the results of a survey aimed at recognizing the life values and resulting sustainability conscious behaviour of young people. Based on gathered data we created a value – behavioural typology of young people.

1 LITERATURE REVIEW

Values aim the purposes of human behaviour therefore goals are often derived from them (Antonides & van Raaij 1998) as well as they represent what is important to people in their lives (Schwartz 2012). According to Solomon (2006) values represent the belief that a certain condition is preferred to its opposite, Antonides and van Raaij (1998) see values as representations of core beliefs or standards used in assessing the behaviour of oneself and others.

1.1 Value System According to Schwartz

Shalom H. Schwartz (2013) characterized values as follows:

- Values represent beliefs closely related to emotions.

- Values are associated with motivation, because objectives that people try to achieve are derived from values.
- Values exceed specific activities or situations, because they are abstract objectives and it sets them apart from the norms and attitudes that are usually associated with particular actions, objects or situations.
- Values govern the selection and evaluation of activities, strategies, people or events. Thus, the values are used as standards or criteria.
- Values are ranked by relevance and sorted. This system is called ´a scale of values´.

When examining values, Schwartz did not name them directly. He created a system of statements. Each statement reflected one of 10 fundamental values, each of which could be described by the main objective of motivation (Schwartz 2013)

1. *Conformity:* self-discipline; obedience- avoiding such activities or impulses that could harm others or could lead to non-compliance with social expectations and norms
2. *Tradition:* accepting one's role in life; humility; devoutness; respect for tradition; moderation, respect and acceptance of habits and beliefs of traditional culture
3. *Benevolence:* helpfulness; honesty; forgiveness; loyalty; responsibility; friendship, protecting and improving the welfare of those to whom the individual is close
4. *Universalism* - Harmony: broadmindedness; wisdom; social justice; equality; a world at peace; a world of beauty; unity with nature; protecting the environment; inner harmony, understanding, appreciation, tolerance and protection of the welfare of all people and nature.
5. *Self-direction:* creativity; freedom; independence; curiosity;
6. *Stimulation:* daring activities; varied life; exciting life
7. *Hedonism:* pleasure; enjoying life
8. *Achievement:* success; capability; ambition; influence; intelligence; self-respect
9. *Power:* authority; leadership; social status and prestige, control or dominance over people and resources
10. *Security:* cleanliness; family security; national security; stability of social order; reciprocation of favours; health; sense of belonging, harmony and stability of society, relationships or the individual himself

Schwartz began to examine the structure and dynamic of relationships between these fundamental values. Actions based on any of these values cause psychological, practical and social consequences which may be either inconsistent or in accordance with an acts based on

other values. For example if an individual is acting in order to achieve success (*Achievement*) it may be in conflict with *Benevolence* because efforts to achieve personal success can hinder actions contributing the well-being of others. But on the other hand this action may be in line with *Power* because it can strengthen the social status and authority. Another example is if a person is motivated to head towards novelties and changes (*Stimulation*), which is contrary to *Tradition*.

2 METHODS

To answer the research question: *What are the values of Generation Y and how are these values demonstrated in environment conscious behaviour?* we conducted an online survey. The aim was to explore opinions, attitudes and environment conscious behaviour in relation to accepted values among students of Faculty of Commerce. We obtained 187 properly completed questionnaires. The content of the questionnaire was inspired by several surveys carried out by European Commission, especially Special Eurobarometer 354 Food-related risks, Special Eurobarometer 365 Attitudes of European citizens towards the environment, Special Eurobarometer 372 Climate change and Flash Eurobarometer Attitudes of Europeans towards resource efficiency and PVQ. To explore human values we used Shalom Schwartz´s questionnaire containing 40 statements describing the person. These statements (portraits) describe a person with her/his goals, aspirations or desires and they indicate the importance of studied values. As an example, we mention two statements of the inventory:

- Thinking up new ideas and being creative is important to him. He likes to do things his own original way. (Self-direction)
- He thinks it is important that every person in the world is treated equally. He believes everyone should have equal opportunities in life. (Universalism - Harmony)

The role of the respondent was to determine the extent to which the described person is like him/her. To express the degree of similarity (or differences) between described person and himself/herself, respondent had to answer using one of the following options (the number indicates the code of the answer):

Very much like me = 6 *Like me = 5* *Some-what like me = 4*
A little like me = 3 *Not like me = 2* *Not like me at all = 1*

As it is obvious from coding, the higher the value, the more respondent sees himself/herself similar to the given example and the more describing the given value is.

3 RESULTS

Analysis of the obtained data gave us results concerning the importance of Schwartz´s values as well as information about opinions and sustainability of behaviour of Generation Y. The segmentation of respondents based on their values allowed us to create a typology of sustainability consciousness among young people that we describe further.

3.1 Application of Schwartz´s System of Values

Results concerning the importance of Schwartz´s values for the researched group of young people are presented as follows. Table 1 shows averages for each researched value. Benevolence, self-direction and hedonism had the highest score. On the other hand, the lowest scores had tradition and power.

Tab. 1: Averages of Schwartz´s Values

	Value	Mean
1.	Benevolence	4.61
2.	Self-direction	4.59
3.	Hedonism	4.47
4.	Achievement	4.33
5.	Harmony	4.29

	Value	Mean
6.	Stimulation	4.18
7.	Security	4.15
8.	Conformity	3.92
9.	Power	3.37
10.	Tradition	3.01

Source: Research results

It is appropriate to examine whether in the final rank the differences between values were statistically significant. To analyse this, the t-test was chosen in order to determine statistically significant differences between the average values. The result of t-test (significance level = 0.05) discovered there are no statistically significant differences between the average scores for the following pairs of values:

Benevolence	Self-direction
Benevolence	Hedonism
Self-direction	Hedonism
Hedonism	Achievement
Harmony	Stimulation
Harmony	Achievement
Stimulation	Security

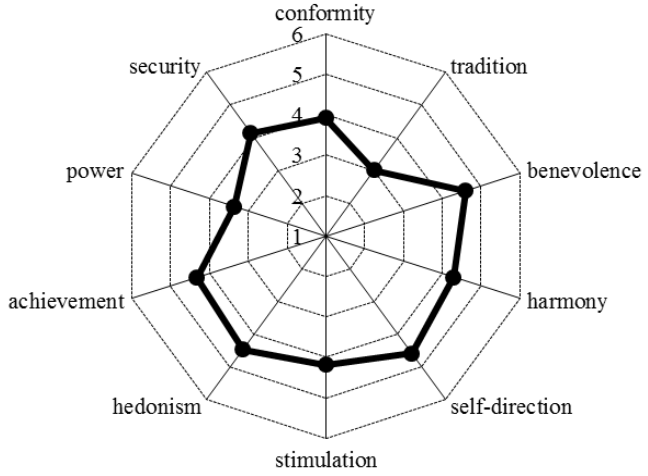
Based on the results of the t-test we can conclude that the most important values are *benevolence, self-direction and hedonism*. Differences between their average scores are not statistically significant; therefore it is not possible to determine which of these values scored better and which scored worse. Only when comparing the following value *achievement* to the previous ones, we can determine the rank and say that the most important is *benevolence* and

self-direction. It is because averages of these two values are significantly different from the average value *achievement* but the average of *hedonism* is not significantly different.

Results of t-test show that students see *benevolence* and *self-direction* as the most self-expressing values. The least typical is tradition (ranked as last) *power* (ranked as last but one) and *conformity*.

Results (Fig. 1) are displaying averages of all ten values derived from 40 self-descriptions. The closer the value is to the midpoint the less typical it is to the respondents, the further it is, the more accurate he/she sees it.

Fig. 1: Average Score of the Values



Source: research results

3.2 Typology Based on Values and Behaviour

For segmentation "k-means" method was used resulting in creation of four clusters. Schwartz´s system of values was used as a segmentation base. This means that the division of students into segments is based on their values (according to Schwartz) and the description of the segment is based on the data about their opinions, attitudes, and real behaviour.

Name of the segment consists of two words. The first word is derived from the values the second from attitudes and behaviour. Clusters are characterized as follows:

Type 1 – Variegated and Responsible

This type consists of 29.4% of students. For this type of students (Tab. 2), values such as self-direction, security and benevolence are significant, but all values except tradition and power have certain importance – therefore the name variegated.

Tab. 2: Rank of Average Scores among Type 1

	Value	Mean			Value	Mean
1.	Self-direction	4.99		6.	Conformity	4.48
2.	Security	4.97		7.	Hedonism	4.42

	Value	Mean
3.	Benevolence	4.94
4.	Achievement	4.87
5.	Harmony	4.78
8.	Stimulation	4.41
9.	Power	3.78
10.	Tradition	3.45

Source: Research results

Compared with other types young people in this segment are more aware of the importance of environmental protection and they understand their personal role in it. They are prepared to buy environmentally friendly products as well as they are ready to change their habits.

Most of them doesn´t throw even a little trash on the ground and a vast majority of them regret if they have to throw away food. In contrast to other types they tend to save water and energy no matter if they have to pay for it or not. When purchasing they consider the impact on the environment. Having suitable conditions for waste separation at home, more collection points and information on how and where to separate would help them to separate the waste more.

Young people of this type tend to agree that greater use of public transportation and paying higher – so called environmental- taxes would help to solve environmental issues. Based on their attitudes and behaviour they had been given the name responsible.

Type 2 – Harsh and Selfish

Achievement, ambition and self-direction are the most important values (Tab. 3) for this type (16.6% of respondents). They do not see tradition as important at all. They seek individualistic "hard" values and lack soft values- therefore the name Harsh.

When it comes to opinions, attitudes and behaviour their characteristic is as follows:

Environmental protection is not important to them. Their conviction that an individual may play a role in protecting the environment is the weakest among all types. They do not agree that the problems related to the environment have a direct impact on their daily lives. Believing that especially large emitters should take care of environmental protection, they do not want to restrict themselves or change their habits in order to protect the environment. They have no problem to throw small trash on the ground and do not regret if they have to throw away food.

Tab. 3: Rank of Average Scores among Type 2

	Value	Mean
1.	Hedonism	4.68
2.	Achievement	4.63
3.	Self-direction	4.44
4.	Power	4.11
5.	Stimulation	4.00
6.	Benevolence	3.96
7.	Security	3.34
8.	Harmony	3.28
9.	Conformity	3.03
10.	Tradition	1.98

Source: research results

When purchasing they do not care what impact the product has on the environment. They tend to not separate the waste. Neither they limit themselves when taking a shower nor prefer usage of bike or walking instead of driving. They do not agree that the information on labels enables them to recognize environmentally friendly products and they do not trust the information on the labels.

The only motivation could encourage them separate the waste – financial or nonfinancial benefits.

When it comes to environment protection activities, they do not agree that cars should be driven by more than one person at a time. They´d rather see more effective cars instead. They do not prefer purchase of ecological products in case they are more expensive, but on the other hand they prefer local products. Compared to other segments, the highest proportion of them has never helped anyone selflessly.

Due to the fact, that this type tends to act egoistically and environment is of no interest to them, they got the name *Selfish*.

Type 3 – Adrenaline and Undecided

The third segment represents 24.6% of students. Students in this cluster (Tab. 4) strongly seek hedonism, stimulation and self-direction. This segment was the only one with the average score over 5.

Tradition has low importance to them, but benevolence and harmony are significant – and that makes them "softer". Since they tend to seek pleasure and excitement they got the name Adrenaline.

Tab. 4: Rank of Average Scores among Type 3

	Value	Mean		Value	Mean
1.	Hedonism	5.15	6.	Harmony	4.51
2.	Stimulation	5.01	7.	Security	3.93
3.	Self-direction	4.93	8.	Conformity	3.68
4.	Benevolence	4.71	9.	Power	3.30
5.	Achievement	4.60	10.	Tradition	2.73

Source: research results

When it comes to opinions, attitudes and behaviour they can be characterised this way:

Their answers were usually clear yes or clear no. They are the ones who are convinced that problems related to the environment affect their daily lives. But they are not aware of the fact that they should change their lifestyle. They save water and energy, but only when they pay for it and when taking a shower, they do not limit themselves to not waste water. They separate. They do not trust the information on product labels.

When it comes to environmental activities they do not see solution in extensive use of public transportation, or car driven by more than one person at a time, but rather replacing the current cars by more efficient. They agree it is correct to prefer buying organic products even if they have a higher price and also with the fact that energy consumption should be reduced. They do not tend to purchase local products. These are the people who selflessly help, especially financially.

The characteristics of this segment seem to be environmentally contradictory - in some areas they are environmentally conscious in some not – therefore the name - *Undecided*.

Type 4 –Nice and Soft

The fourth type consists of 29.4% of students. Students in this segment (Tab. 5) recognize particularly benevolence and also harmony and conformity as their main life values.

Tab. 5: Rank of Average Scores among Type 4

	Value	Mean
1.	Benevolence	4.56
2.	Harmony	4.18
3.	Conformity	4.05
4.	Self-direction	3.98
5.	Security	3.96

	Value	Mean
6.	Hedonism	3.84
7.	Achievement	3.40
8.	Tradition	3.38
9.	Stimulation	3.35
10.	Power	2.59

Source: research results

The least important is power. Only three values had an average score higher than 4, so they have formed the basis for their name - *Nice*.

When it comes to opinions, attitudes and behaviour this is what is typical:

Their answers were usually partial agreement or partial disagreement. They are not ready to buy environmentally friendly products. Although they agree that an individual can play a role in environmental protection, they think that rather large polluters should take care of environmental problems.

They partially disagree that an environmental impact of individual is minimal and they understand (slight agreement) that they should change their lifestyle. They see labels as helpful when deciding about purchase of environmentally friendly products. They do not see themselves as producers of large quantities of garbage.

When it comes to environmental activities they are the group with strongest conviction that it would help if cares were driven by more than one person and least of all they think replacing of current cars by more effective ones would help. If they decide to help selflessly, it usually is nonfinancial help.

As this type usually used only partial agreement or disagreement, they got the name – *Soft*.

CONCLUSION

Researching the value system of students belonging to Generation Y by means of Shalom Schwartz inventory showed that students are flexible young people, not clinging on stereotypes, rather ready to change customs and accept new ideas. On the other hand their understanding of themselves as individuals and as a part of a society is balanced. They see themselves as personalities working on their personal growth but they understand the importance of being tolerant, fair and kind to people around.

The four identified types of Generation Y, when it comes to their value and environmentally conscious behaviour, are *Variegated and Responsible, Harsh and Selfish, Adrenaline and Undecided, Nice and Soft*. These four types differ very much in importance of values as well as in tendency to act environmentally friendly and therefore it is too superficial to claim that Generation Y is environmentally cautious or that it is too selfish to act environmentally friendly. There is only one characteristic that concerning the environmental issues is true about Y. It is that they have much more information about what is happening than any other generation before but the effect of such information differs according to their values and lifestyle. Therefore understanding what ´type´ they are, helps to customize communication of sustainable consumption.

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About Financial Behavior of Households in Central and Eastern European Countries

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Abstract: Financial behavior of households attires attention of policymakers because of their impact on financial stability as well as for their contribution to understanding monetary transmission mechanism. To capture financial behavior of households, two types of data are generally used: micro-level survey data and aggregated macro-data from national accounting. Micro-data which cover a large panel of Central and Eastern European Countries (CEECs) are partially analysed in the existing literature. As the purpose of the financial accounts is to provide information about financial assets and liabilities distributed over various financial objects, we used these data to analyse financial behavior of households in ten CEECs (EU Member States). Our goal was to identify overall and country-specific tendencies in CEECs households' financial assets and liabilities structure. For this purpose, two different methods were applied: cluster analysis and convergence testing. Since our sample cover the countries which have and have not adopted euro, our conclusions contribute to discussions about the effects of the single monetary policy on financial behavior of households.

Keywords: households, financial behavior, national accounts, CEECs, convergence, monetary integration

JEL Classification codes: D14, F36

INTRODUCTION

Financial behavior of households attires the attention of policymakers for multiple reasons. Firstly, this behavior has an impact on financial stability. The crisis which started in 2008 showed that the problems of a limited group of households can be amplified to the level of serious macroeconomic problems. Afterwards, the analysing of the development of financial wealth of household is an important part of understanding monetary transmission mechanism, because of eventual distributional consequences of monetary policy. Moreover, the challenges of future demographic situation motivate the governments to encourage households to be more in charge of their own financial situation, especially after retirement. Thus, the analysis of different processes of financial behavior like financial planning, risk taking or savings behavior are of growing interest of economic research (see for example Brounen, Koedjik & Pownall 2016). In this context, the situation in CEECs, sharing the same heritage of households attitudes coming from specific socio-economic background related to communism, is particularly interesting. There is an additional motivation for studying

financial behavior of households in CEECs. The countries, who joined the EU in 2004 or 2007, have an obligation to adopt euro. However, only five of them have joined it until today. Thus, the group of Eastern EU Member States can be split into two subgroups which can help to identify an eventual impact of monetary integration on financial behavior of households.

1 LITERATURE REVIEW

Empirical cross-country evidence on financial behavior of households and their determinants in CEECs is rare. Bethlendi (2011) found that during booming years, national policymakers were strongly constrained to decrease or effectively manage the risks of unhedged foreign currency lending to households due to the economic characteristics of CEECs. Comparing different CEECs, the author founds out that euro membership could not automatically eliminates negative effects of foreign currency lending. Beckmann, Fidrmuc and Stix (2012) use survey data from nine CEECs to analyse an impact of foreign currency loans on financial vulnerability. They conclude that high rates of arrears among households in CEECs are caused to a significant extent by adverse income shocks and that these shocks exert a more important impact than installment shocks. Fidrmuc, Hake & Stix (2013) study the determinants of foreign currency loans of households, using data on the behavior of households in nine CEECs. Their results reveal that foreign currency loans are driven by households' lack of trust in the stability of the local currency and in domestic financial institutions. Moreover, special factors including remittances and expectations of euro adoption play an important role in selected CEECs regions. Bohle (2014) describes how institutional framework shaped the housing finance markets and to what extent they were able to mitigate the associated risks for citizens in Eastern Europe. The author uses the example of Estonia and Hungary to underline the fact that transnationalisation and EU convergence have provided common background for CEECs households' decision-making in the early 200s. However, the national policies started sharply to diverge in the wake of the global financial crisis.

Beckmann, Hake and Urvova (2013) propose an analysis of determinants of households' savings in CEECs. They use the data from Euro Survey of the Oesterreichische Nationalbank (OeNB) and found age and education as beeing a relevant factor affecting saving decisions. On the contrary, the authors found no evidence for expectations regarding inflation of exchange rate nor trust in institutions to have a significant impact on savings of households in CEECs.

Recent empirical literature about financial behavior of households in fifteen European countries, which use data from Household Finance and Consumption Survey (HFCS), propose another step towards understanding the specificities of CEECs. Although these data have a weakness characterized by their geographical coverage, they have an important advantage of allowing to study other underlying motives for financial behavior of households (see for example Ampudia & Ehrmann 2014). Thus, they propose additional possibility to explain heterogeneity in households' financial decisions by various determinants. In this context, Le Blanc et al. (2015) identifies three geographic areas according to determinants of households' financial behavior: Continental (6 countries), Mediterranean (6 countries) and "Other". The last one is formed by Slovakia and Slovenia. According to authors, these two CEECs considerably differ from the rest of the sample. For instance, the ability to get financial assistance from relatives and friends is extremely low (less than 40 %) in these two countries, what is not in line with other European countries (non CEECs).

Another outcome of studies using HFCS data is that they allow to compare different data sources about financial behavior of households – aggregated data from national accounts and survey data. Kavonius & Honkkila (2016) identifies the level of underrepresentation of different forms of financial assets in surveys comparing to their value in national accounts. According to their results, the level of underrepresentation is higher in Slovenia than in Slovakia, especially in case of bonds and mutual funds.

2 METHODOLOGY AND RESULTS

Financial accounts as a part of national accounts deal with harmonised data about financial activities of all economic sectors in European economies. As the purpose of the financial accounts is to provide information about financial assets (savings, financial wealth etc.) and liabilities (loans etc.), distributed over various financial objects, we choose these data to analyse financial behavior of households in Central and Eastern European Countries (CEECs). These aggregated macro-data have some advantages and disadvantages, comparing to micro-level survey data about financial behavior of households. The first advantage consists of their capacity to be used for international comparisons thanks to its geographical coverage (almost all EU Member States are involved) and harmonised principles of compilation. Another advantage rely on the fact that in national accounting, the data concerning households are balanced to data about other economic sectors (financial and non-financial corporations, general government etc.) for which the necessary reliable data are recorded and collected. Thus, the problems of nonresponse and underestimation, which

usually occur in case of survey, are avoided by using data from national accounting. Afterwards, the households sector in national accounting comprises all households and includes also household firms (sole proprietorships, partnerships that do not have an independent legal status, non-profit institutions serving households (NPISHs) like charities and trade unions). Some argue (see for example Kavonius & Honkkila 2016) that NPISHs should be excluded from the analysis about households finance. However, this procedures is necessary when trying to compare the micro and macro data (NPISHs are normally excluded from surveys). For our purposes, we consider it is meaningful to keep data about NPISHs because of their impact on financial strategies of households.

On the other hand, disadvantages of households financial behavior data derived from national accounting are multiple, too. Firstly, the aggregated data do not propose a possibility for distributional analysis. Secondly, the structure of data is limited by the definition of national accounts system (e.g. in Europe, we apply European System Accounts 2010 principles). For example, data provide information about "currency and deposits" as a form of households' assets, but are not proposing inside view into different forms of deposits like sight accounts, saving accounts, other accounts etc. Thirdly, as pointed by Roemer (2002), the macrodata suffer the problem of missing data due to illegal work and shadow economy. However, as being stressed by Andreasch & Lindner (2016, p. 2), both the aggregated data of national accounts and the survey measures represent a valid basis for empirical evaluations.

2.1 Stylised Facts about Financial Behavior of households in CEECs

For the purpose of our analysis, data representing the sector "Households including NPISH (S.14+S.15)" were taken. As can be seen in Tab. 1 and Tab. 2, we used annual data representing the proportion of values of various forms of assets (AF.2 Currency and accounts, AF.32 Long-term debt securities, AF.51 Shares and other equities, AF.52 Mutual fund shares, AF.62 Life insurance and annuity entitlements, AF.63+64+65 Pension entitlements, claims of pension funds on pension managers and entitlements to non-pension benefits) as a % of total financial assets, and values of two forms of liabilities (AF.41 Short-term loans and AF.42 Long-term loans) as % of total financial liabilities. The data for all EU Member States in the region of CEECs (with the exemption of Estonia) are available, but not for the same time horizons. We chose the years 2004 and 2014 as being the years the most appropriate for our analysis. For some countries, data before 2004 (e.g. Lithuania) or after 2014 (e.g. Croatia) were not available at the moment of our analysis. From the perspective of economic interpretation, the year 2004 corresponds to the moment of the entry of most of countries in

our sample (with the exemption of Bulgaria and Romania) into the European Union. The choice of 2014 as another midpoint in our analysis helps to identify the changes in financial behavior after ten years, which is in line with the idea that changes in financial behavior of economic agents are not rapid, rather progressive and time-consuming (Mojon 2001, p. 108).

Tab. 1: Composition of assets and liabilities (as part of total financial assets/liabilities) in CEECs in 2004

	Cash and deposits	Bonds	Shares	Mutual funds	Life insurance	Private pensions	Short-term loans	Long-term loans
Bulgaria	0,57	0,003	0,33	0	0,004	0,03	0,07	0,79
Czech republic	0,51	0,002	0,27	0,06	0,06	0,04	0,13	0,67
Croatia	0,61	0	0,25	0,01	0,02	0,04	0,11	0,86
Latvia	0,40	0,001	0,30	0,01	0,01	0	0,08	0,77
Lithuania	0,38	0,01	0,42	0,002	0,01	0	0,03	0,68
Hungary	0,38	0,02	0,27	0,05	0,05	0,08	0,10	0,76
Poland	0,40	0,01	0,33	0,05	0,05	0,09	0,25	0,70
Romania	0,30	0	0,58	0,01	0,02	0	0,10	0,57
Slovakia	0,50	0,03	0,26	0,05	0,04	0,03	0,12	0,66
Slovenia	0,68	0,01	0,004	0,11	0,08	0	0,06	0,50

Source: own calculations, data from Eurostat (National accounts – Financial accounts, Annual data)

Tab. 2: Composition of assets and liabilities (as part of total financial assets/liabilities) in CEECs in 2014

	Cash and deposits	Bonds	Shares	Mutual funds	Life insurance	Private pensions	Short-term loans	Long-term loans
Bulgaria	0,38	0,005	0,43	0,004	0,009	0,07	0,08	0,68
Czech republic	0,51	0,04	0,22	0,06	0,06	0,07	0,06	0,84
Croatia	0,56	0,002	0,17	0,02	0,04	0,18	0,10	0,88
Latvia	0,37	0,01	0,21	0,01	0,01	0,09	0,09	0,81
Lithuania	0,36	0,02	0,39	0,01	0,02	0,06	0,03	0,65
Hungary	0,29	0,05	0,29	0,11	0,05	0,04	0,10	0,80
Poland	0,46	0,003	0,20	0,06	0,05	0,10	0,08	0,89
Romania	0,34	0,01	0,22	0,04	0,01	0,04	0,04	0,71
Slovakia	0,49	0,01	0,22	0,04	0,08	0,07	0,09	0,78
Slovenia	0,61	0,01	0,003	0,08	0,07	0,14	0,07	0,84

Source: own calculations, data from Eurostat (National accounts – Financial accounts, Annual data)

The role of cash and deposits in the structure of financial assets is remarkable in all CEECs. In 2014, its relative parts vary between 29% in Hungary and 61% in Slovenia. To compare, its relative part in the Euro area represents 34%. In most of CEECs, dominant role of these most liquid forms of wealth was stable within last decade. However, in Bulgaria, in Hungary and in Slovenia, the tendency towards decreased role of cash and savings is obvious (decline of 19 p.p. in Bulgaria, 9 p.p. in Hungary and 7 p.p. in Slovenia). The only country with the increasing relative role of cash and deposits is Poland (increase of 6 p.p.).

Concerning the bonds, their use is limited in Europe (5 % of total assets in case of the euro area households) and even more limited in CEECs. However, a general tendency of increased relative part of this form of assets in our sample is obvious. Analogically, a tendency towards

using mutual funds and life insurance to the larger extent is also presented in CEECs. In Hungary, the increased relative role of mutual funds is the most particular one (6 p.p.). On the contrary, Slovenia and Slovakia do not follow this general tendency. Slovenia is also one of two countries (together with Romania) where the relative role of life insurance has smoothly declined between 2004 and 2014.

Shares (both quoted and unquoted) as a form of financial assets in case of households and household firms play an important role in CEECs (with the exception of Slovenia). They also represent a form of financial assets whose role are not stable and changed considerably between 2004 and 2014, mostly with a negative tendency. Two countries in which the relative parts of shares increased in the analysing period are Bulgaria and Hungary. Comparing to the euro area (4% for quoted shares and 13% for unquoted shares in 2014), this form of financial assets is used relatively more widely in the countries from our sample. But, it is important to underline that the use of quoted shares is less presented in CEECs than in the euro area.

The increase of relative role of private pensions in the analysing period is spectacular. The most dynamic changes occurred in Croatia (14 p.p increase), Slovenia (14 p.p. increase), Latvia (9 p p.p.) and Lithuania (6 p.p. increase). Hungary is the only country in our sample who recorded the decrease portion of private pensions in the analysing period and is moving off the euro area average (13 % in 2014).

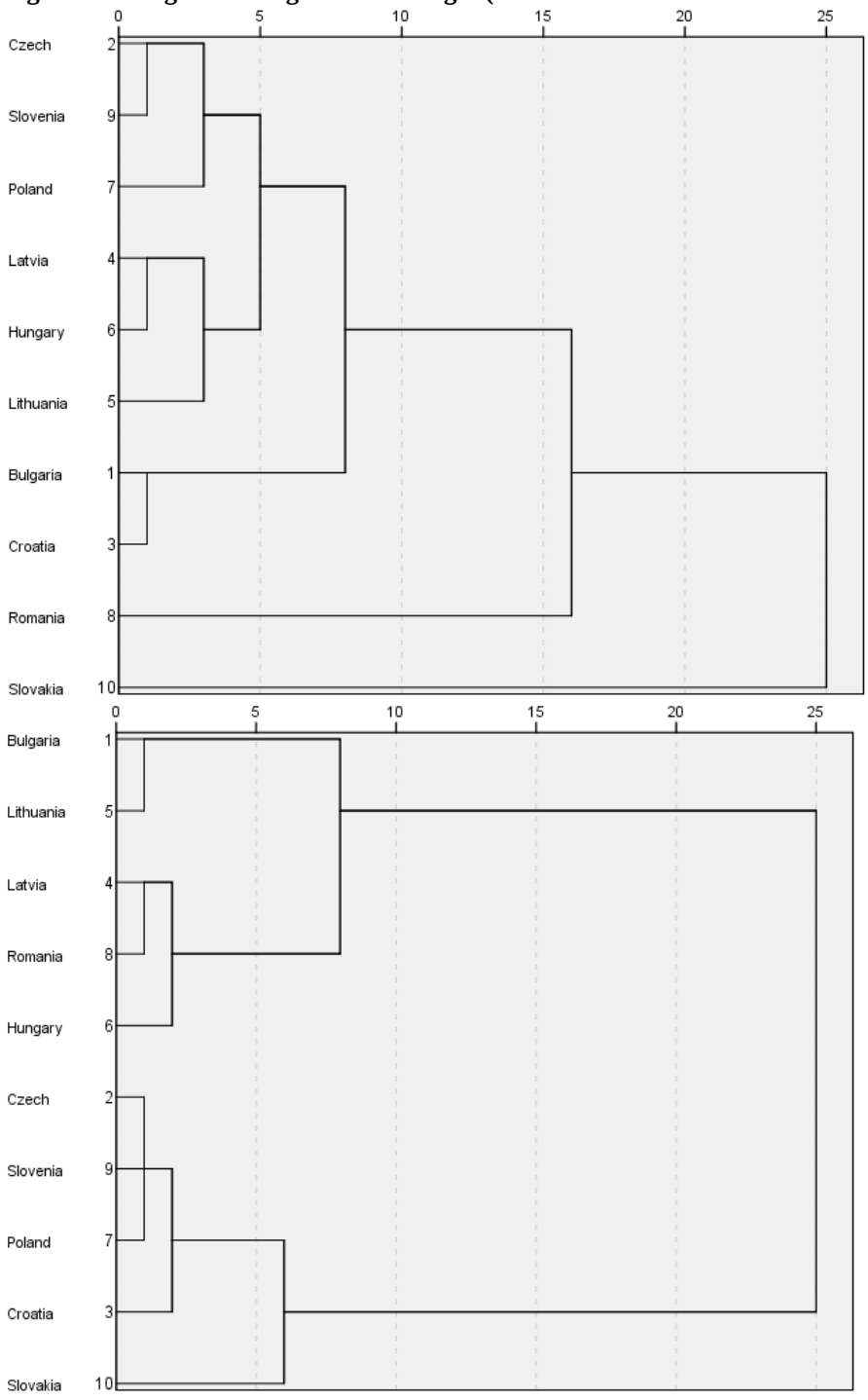
What concerns financial liabilities, short-term loans are used to lower extent than long-term loans in CEECs. The same is true in other European countries (5 % for short-term loans and 85 % for long-term loans in the euro area in 2014). In the analysing period, the relative role of short-term loans declined significantly in Poland (17 p.p.), in the Czech republic (7 p.p.) and in Romania (6 p.p.). The relative role of long-term loans declined in Bulgaria and Lithuania, but most of the CEECs noticed an increase in the portion of long-term financing of households. The most important increased was observed in Slovenia (34 p.p.), Poland (19 p.p.) and Czech republic (17 p.p.). The only two countries which do not follow the general tendency of higher long-term financing of households, are Bulgaria and Lithuania.

2.2 Clusters of Household Financial Behavior in CEECs

In order to better capture the common and different features of financial behavior of specific CEECs, we proceeded to cluster analysis. Thus, eight characteristics of ten CEECs (corresponding to six forms of liquid assets and two forms of financing) were applied. Focusing on the dendrograms from 2004 and 2014 (fig. 1), one can see that financial behavior of households do not correspond to the geographical borders of sub-groups of CEECs (V4

countries, Baltic countries, ex-Yugoslavia countries, Balkan countries). It seems that country-specific factors determining the financial behavior (cultural habits or institutional settings) rather than geographic area - specific factors prevail in decision-making processes of households.

Fig. 1: Dendrograms using Ward Linkages (Rescaled Distance Cluster Combine), 2004 and 2014



Source: Own calculations, data from Eurostat

Comparing two figures led to conclusion that changes in sub-groups composition which occurred in the analysing period are hardly explained by European monetary integration. The households in four countries joining the EMU (Slovenia, Slovakia, Latvia and Lithuania) who are taking decisions in relatively approaching macroeconomic environment are not forming a specific cluster(s) of CEECs. Even the countries in neighbourhood, making a part in the same cluster in 2004 (Lithuania and Latvia) found themselves in different clusters in 2014 (Lithuania forms a cluster with Bulgaria, Latvia with Hungary and Romania). Thus, the impact of euro adoption (and increasing access to European financial markets) on financial behavior of households seem to be limited in our sample of four EMU Member States.

The data available from proximity matrix were also used to calculate median distance of a specific country to other EMU Member States or non-EMU Member States from our sample. In the group of EMU Member States, this is only Lithuania for which median distance to EMU countries is higher than median distance to non-EMU countries in 2014. In the group of non-EMU Member States, three countries seem to have financial behavior of households "closer" to other CEECs which have adopted the euro: Bulgaria, Czech Republic and Croatia. Again, the results do not confirm a clear impact of euro adoption on households' balance sheet structure.

2.3 Convergence of Financial Behavior of Households in CEECs

As was presented in previous parts, the heterogeneity in financial behavior of households was identified in CEECs. However, an eventual convergence in such behavior could indicate gradual process of decreasing heterogeneity in time. Following Wilhelm (2004), we applied a dispersion measure, the coefficient of variation, as an appropriate measure to capture any convergence evidence.

Tab. 3: Coefficients of variation of different forms of financial assets and liabilities

	Cash and deposits	Bonds	Shares	Mutual funds	Life insurance	Private pensions	Short-term loans	Long-term loans
EMU member states in 2004	0,24	0,83	0,62	0,99	0,82	1,73	0,45	0,15
EMU member states in 2014	0,22	0,35	0,67	0,82	0,68	0,34	0,35	0,09
Non-EMU member states in 2004	0,24	1,23	0,33	0,79	0,59	0,65	0,46	0,13
Non-EMU member states in 2014	0,22	1,13	0,34	0,69	0,55	0,57	0,28	0,10
All countries in 2004	0,24	1,09	0,46	0,95	0,69	1,01	0,53	0,15

	Cash and deposits	Bonds	Shares	Mutual funds	Life insurance	Private pensions	Short-term loans	Long-term loans
All countries in 2014	0,22	1,02	0,48	0,75	0,62	0,49	0,31	0,09

Source of data: National accounts – Financial accounts, Annual data, Eurostat

A decline in dispersion between 2004 and 2014 is presented in almost all forms of financial assets and liabilities under examination. The most dynamic changes were observed in two cases: (1) private pensions and (2) bonds, both at the level of the EMU member states. The only exception from the general tendency of decreasing dispersion is represented by shares, but the divergence seems not to be dramatic. It seems that convergence in financial behavior of households in CEECs which is presented at the level of the whole sample, concerns also two sub-groups of countries with and without euro, but the decline was more rapid in the sub-group of EMU countries. These results can indicate a possible positive impact of euro adoption on convergence between CEECs with the euro, at least in some specific areas like bonds and private pensions.

CONCLUSION

The region of Central and Eastern European Countries is usually presented as a relatively homogenous bloc of countries sharing the same experience with communism in Europe. Although this experience has some impact on attitudes of households determining their economic and financial behavior, this behavior is not monolithic in all Central and Eastern European Countries. This paper presented an inside view at the common and different features of financial behaviour of households and identified the heterogeneity within the group of CEECs at various levels.

Firstly, the comparison of structure of financial balance sheet of households in ten CEECs (using aggregated macro data from national accounting) lead to conclusion that the allocation of financial assets into different forms of financial assets is not the same in all countries from our sample. The most remarkable differences are presented at the level of cash and savings, shares and private pensions. On the other hand, the structure of financial liabilities of households in CEE is more homogenous and is relatively comparable to the structure of financial liabilities in households in other EU Member states.

Secondly, the cluster analysis of financial behaviour of households in CEE showed that financial behavior of households does not correspond to the geographical borders of sub-groups of CEECs. It seemed that country-specific factors determining the financial behavior

(cultural habits or institutional settings) rather than geographic area - specific factors prevail in decision-making processes of households.

Thirdly, the convergence analysis leads to conclusion that financial behavior of households in CEECs is presented at the level of the whole sample of countries. This tendency concerned two sub-groups of countries with and without euro, but we identified a more rapid decline in the sub-group of EMU Member States of CEECs.

The results we obtained can be also interpreted form the perspective of European monetary integration. They don´t indicate the financial behaviour of households in CEECs which have already adopted euro as being systematically different from those in CEECs which have not adopted European currency. We couldn´t find these countries as forming a specific cluster of them. However, the countries with euro indicated a higher tendency towards convergence at the level of financial behaviour of their households. This is especially true for household investment in private pensions and in bonds.

Concerning the future research, it would be interesting to compare our results with those based on survey data. Thus, our paper would contribute to the general efforts in economic research to combine the macro- and the microdata in order to better understand the financial behavior of households in CEECs (see for instance Kavonius & Honkkila 2016).

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Customer Relationship Management Focus and Its Impact on Company Performance

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Abstract: The aim of the paper is to explore the impact of different focus in customer relationship management on business performance. The three focus categories investigated in our paper are ICT-focused customer relationship management, interaction-focused customer relationship management, and integration-focused customer relationship management. While the ICT-focused management and interaction-focused management both emphasize utilization of the data to extract benefits for the company, the integration-focused customer management in contrast underlines a mutual relationship between customer and the company, thus contributing to the enhancement of both: customers and the company. The effect of the three explored customer management styles is examined in relation to the performance. The sample for empirical research consisted of 105 companies. Combination of questionnaire and individual interviews was used to explore the customer management focus dimensions and their pros and contras in business performance. To indicate the effect of customer relationship management on company performance, several hypotheses are tested. Each of the three examined focus dimensions emphasize different component of CRM. Information and communication technology is a prerequisite for interaction and interaction facilitates integration. As a result, these three different focus alternatives of customer management can be considered as complementary.

Keywords: customer relationship management, ICT-focused CRM, iInteraction-focused CRM, integration-focused CRM, company performance

JEL Classification codes: M30

INTRODUCTION

Customers are a strategic asset and a source of competitive advantage (Porter 1985) and therefore development of strategies for managing customers is crucial in boosting business growth (Chakravarthy et al. 2003).

At the beginning of customer relationship management (CRM) formation (1991-2000) computer science played a key role, with customers viewed as an "object" that can be managed better with the help of information and communication technology (ICT) (Nonaka 1995). The literature on customer management (CM) in an IT perception considered knowledge as an object that can be managed by information technology tools, like intranet, data warehouses, document management systems or decision support systems (Gummesson 2003).

In the expansion stage (since 2000), there was a shift in CRM from "IT as databases" to "IT as an interaction and communication technology". Repositioning CRM as an "IT concept" to CRM as a "social process" emphasized the feedback aspects of customer management (Brown & Duguid 2001). This approach views customers as a key resource that can create competitive advantage (Vera & Crossan 2003).

An integration based CRM occurs when customers are involved in the value chain of the company and freely interact with its employees (Easterby-Smith & Crossan 2000).

Academic literature offers plenty of definitions of customer management. Most of existing CRM definitions were focused on a special particular aspect, because they were rooted in different disciplines. The information technology discipline viewed CRM as a technical activity of providing IT, which stores the customer information. Researchers in the organizational economics viewed customers as an asset and emphasized the need to utilize it. The research in organizational learning stressed the importance of communication, collaboration and learning (Bhatt 2001). However, little effort has been made to integrate these different perspectives. This could be one of the reasons why much of the CRM concepts adopted an IT approach and the needed focus on mutual learning was missing.

Our paper explores different approaches to the focus in customer relationships management and how it affects the company performance. The principle goal of our research is to determine the impact of the effects that different focus in CRM exhibits on company performance.

Recently academic literature does not differentiate between "customer relationship management" (CRM) and "customer management" (CM) and employs both terms as synonymous (Payne 2006). The CRM in our paper is understood as a business approach that seeks to create, develop and enhance relationships with carefully targeted customers in order to improve customer value and corporate profitability (Payne 2006). It is a set of processes to bring benefits to both customers and a company (McDonald 2002).

This definition comprises three aspects: a) developing, and enhancing relationships with customers, b) improving customer value, and c) improving corporate profitability. Equal emphasis is put on satisfying customers and enhancing their value. By adopting an integration focus to the CRM, it emphasizes the importance of mutual learning (Brown & Duguid 2001).

Several literature sources (Schiuma 2012) examined the relationship between customer management and performance outcomes (Zack et al. 2009). In contrast to the general views assuming that CRM automatically generates better business performance, we only postulate that customer management could facilitate and simplify managing customers. We do not

automatically presume performance gains. The question of CRM impact on company performance is the core of our research.

1 LITERATURE REVIEW

Three types of focus in CRM are examined in our research: ICT focus, interaction focus, and integration focus. Each of the three named focus categories highlights a different component of CRM. Although these three focus types differ from each other, they could complement each other in managing the different aspects of customers and providing company benefits.

Companies following ICT-focused customer management install technical infrastructure and rely on technology to deliver CM. Such organizations expect that processing customer data automatically leads to customer management. However, providing technological tools is only a passive approach based on the idea that customer relationships will be managed when the technology is used (Nonaka 1995).However, information technology can only inspire, but cannot create effective customer management, because this requires all three elements of a triad: technology – people – processes (Liao & Wu 2009).

In an interaction-focused CM, the company focuses on collecting feedback through recording and storing it in data warehouses in order to be accessible and reused in the future by the employees. Firms that use an interaction-focused customer management, view it as a tool to retain their existing customers and to develop an organizational memory (Ziglidopoulos & Schreven 2009) They store documents in repositories. However, in all the repositories only the explicit component of customers´ feedback information can be recorded. The interaction-focused CM does not manage tacit knowledge, because tacit dimensions of knowledge are present only in social interactions. The aspects of tacit knowledge transfer are managed in the integration-focused CM.

Integration-focused CM is guided by the idea that mutual learning is crucial to managing relationships with customers. Integration-focused approach puts an emphasis on mutual learning that arises from mutual interaction between customers and company employees. It enables to leverage customer knowledge and improve company´ processes (Peterson & Wilson 1992). By creating appropriate strategy and culture this integration focus stimulates the process of innovation and creating new knowledge (Christopher et al. 2002).

Each of the three examined categories emphasize different component of CRM. Technology is a prerequisite for interaction and interaction facilitates integration with effects of mutual learning. Learning processes become more effective when technological infrastructure facilitates communication and transfer of information between company employees and

customers (Bhatt 2001). As a result, these three management approaches can be considered as complementary.

2 GOALS AND METHODS

The goal of our paper is to explore the effects of different focus in customer relationships management on company performance. The principle question we raise in the research is focused on the determination of the effects generated by different CRM focus on business performance. To come to the conclusion, we formulate relevant research hypotheses.

Several authors (Vera & Crossan 2003) document that a mere focus on technology is not sufficient to manage customers and thus create performance benefits. ICT-focused CRM focuses primarily on delivering infrastructure and does not develop systems and processes to enhance customer relationships.

Companies that emphasize interaction, create repositories in order to store, manage and distribute the customer feedback information. By emphasis put on collecting feedback information they can benefit from accumulated experience / expertise and save the costs. However, because of fast environmental changes, new competitors and fast business development, these benefits may be only short-term.

Relying on exploitation of feedback information may weaken innovation and offensive customer strategies. Mere reliance on feedback information prevents companies frequently from product and process innovations that are necessary for growth. Therefore we state following hypotheses:

H1: Interaction-focused CRM will result in a higher level of performance than ICT-focused CRM.

H2: Integration focused CRM will result in a higher level of performance than Interaction-focused CRM.

By providing suitable conditions and processes, the integration-focused management facilitates the creation of customer value and provides performance benefits (Cronin et al. 2000). Generating performance effects through customer integration into value-chain process of a company is resource intensive and also time-intensive process.

Performance measure used in the research was explored based on several indicators identifying processes ensuring long-term success and survival of a company such as ability to respond to external changes, innovativeness of a company, relationships to customers and employees, ability to identify new opportunities. Multi-indicators measures were generated on the constructs used in the research (ICT-focused CRM: 3 items, interaction-focused CRM: 3

items, integration-focused CRM: 4 items, performance measure: 5 items). 7-point scale was used to assess the particular indicators, with mean values calculated for every construct.

The indicators used for the questionnaire are given in Table 1.

Tab. 1: Constructs and their indicators

Constructs and indicators
ICT-focused CRM
Implementing ICT-focused CRM in our firm is important for managing customers
Developing ICT-focused CRM is responsibility of specially appointed managers
Our firm uses technology as a principal instrument for managing customers
Interaction-focused CRM
Our firm emphasizes recording and collecting customers´ feedback in data repositories
Our firm stores customer feedback for future use
Storing feedback information prevents our firm from losses when employees leave
Integration-focused CRM
Our firm emphasizes involving customers into value chain as an instrument of mutual learning
Customers share their experience with the employees in the firm
Systems in place to motivate integration of customers into a value chain of a company
Customers participate in critical decisions made by the company
Long-term performance (Company processes ensuring long-term success)
Our company is able to respond quickly to changes in customer needs
Our company has a potential of fast innovations
Our company is able continuously to identify new business opportunities
Customers of our company are loyal
Our company has a potential to ensure future performance

Source: own composition

The sample for empirical research consisted of 105 companies from 5 industry sectors: machinery (43), electronics (18), food production (23), wood processing (11) and construction (10). Regarding the focus of CRM, 18 companies employ ICT-focused customer relationship management, 63 companies follow interaction-focused customer relationship management and 24 companies adopt integration-focused customer relationship management. Companies were asked to assess every indicator (see Table 1) on a 1-7 point scale (1=strongly disagree, 7=strongly agree). Following, semi-structured interviews were conducted with eight companies. The interviews covered a range of questions clarifying the concept of CRM in the company.

3 RESULTS AND DISCUSSION

The hypotheses were tested using one-way ANOVA. Testing for the significance was done by using F-tests.

Hypothesis one proposes that Interaction-focused customer relationship management is associated with higher performance than customer management focused on ICT. An analysis of variance (ANOVA) was undertaken to test the difference. The one-way ANOVA results show that the mean performance for ICT-focused management is significantly less than the mean performance for interaction-focused customer management (M (ICTCM) = 3,81 < M (IntCM) = 4,88; F = 14,801; p < 0,001). Hypothesis H1 is supported due to the fact that an interaction CRM will result in a higher level of performance than ICT-focused customer relationship management.

In hypothesis two a positive difference in performance level was hypothesized between the effects of integration-focused customer relationship management and interaction-focused customer relationship management. The result of the ANOVA confirmed this suggested difference, indicating that the mean performance level associated with integration-focused CRM is significantly higher than the mean performance level of interaction-focused CRM (M ItgCM = 5,22 > M IntCM = 4,88; F = 34,084; p < 0,001). Thus the H2 is supported.

The variance testing revealed that both the hypotheses were supported. In other words, the difference-relationships associated with the focus of customer management were statistically significant.

Interviews with firms supported these findings and suggested that the role of ICT in the performance gains is limited. ICT focus in customer management is unlikely to provide any significant performance benefits. Facilitating the information flow was mentioned by companies as a main benefit of ICT-focused management, however with no direct influence on performance. These findings are in line also with other research studies (Payne, 2006).

It was also reported that mere reliance on usage of feedback information weakens the ability to generate new ideas and create new solutions.

Companies following interaction-focused CRM mentioned in interview such performance benefits as openness in access to databases, fast response or retaining of important knowledge. These are, however, no long-term performance aspects. Both the questionnaire data and interviews suggest that interaction-focused CRM has only limited effects on long-term performance.

The original contribution of our research rests in investigation of differences in customer relationship management focus. We apply a structured approach distinguishing among three distinct types of customer relationship management approach. Most of existing studies do not explore the particular forms and focus of CRM approach and consider it as a whole. Results from our analysis reveal the hierarchy of different CRM focus and indicate that integration-

focused CRM has a higher positive effect on long-term performance than both interaction-focused CRM and ICT-focused CRM.

CONCLUSION

The original contribution of the paper rests in examining the impact of different focus types in CRM on company performance. We found that integration-focused customer relationships management supports long-term benefits better than ICT-focused and interaction-focused customer relationship management.

The analysis of the three different focus alternatives in managing the customers confirmed their hierarchical nature. On the lowest-level is the IT-focused CRM, delivering IT tools in the company with the expectation that it will facilitate and foster information flow. On the middle-level, the interaction-focused CRM encourages feedback information from customers to be codified and stored in the databases. At the highest level, the integration-focused CRM encourages mutual learning and knowledge exchange between customers and a company

The hierarchical effect was found also in the impact of the three customer focus strategies on company performance. The ICT-focused CRM has lowest documented effect on performance, the interaction-focused CRM has moderate positive effect on performance, and the integration-focused CRM has a highest positive effect on performance. It was documented in the literature (Aydin & Ceylan 2009) that mere focus on technology and storing information does not generate long-term benefits. The interviews with managers indicated that adoption of interaction-focused CRM does not support the creativity. Relying on IT tools can reduce the face-to-face social interactions necessary for mutual learning and creativity. As a result, the lower level customer relationship management styles produce weaker performance benefits.

Today, the need to find new ways to competitive advantage is driven by changes demanding more customer-oriented perspective. Competitive advantage can be gained by utilizing knowledge of customers´ expectations, preferences and behaviour. This involves creating an ongoing dialogue with customers and exploiting benefits from integration customers in the value-chain of a company (Gummesson 2002). Systematic attention to the customer relationship management can help companies to achieve competitive advantage through mutual learning, which is one of the resources for growth and competitiveness in fast changing world. Further research in the relevant area will continue also within the research project VEGA 1/0224/15 funded by Ministry of Education, Youth and Sport of Slovak Republic.

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Mergers and Acquisitions Conducted By Chinese Companies on the European Market - Premises and Effects - On the Example of the Energy Sector

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Abstract: The article aims analyse the largest, in terms of value M&A conducted by Chinese companies between 2005 and 2015, in the energy sector, in order to present the main premises and the consequences of such agreements. For this purpose, first the specificity of China's energy sector as the result of the implementation of reforms, the government's five-year plans and the impact of the global economy was presented. Then the focus was put on the main premises and consequences of these forms of integration. Based on the case study method analysis of the agreements shows that decisions on conducting the agreements such as M&A are strongly influenced by the adopted strategic directions of the companies' development, their desire to develop a competitive position on the market and improve their financial condition. The effects, in turn, were addressed, taking into account the dimensions of the strategic and tactical importance for companies. The elements of strategic importance include, among others: the new partnership models created as a result of M&A, creating new prospects for business development through access to new markets, new customers and the development of technological cooperation and research in the implementation of advanced technologies. The elements of the tactical character include, in turn: progress in internal modernization of companies and an increase in the efficiency of the projects and processes which translates into achieving better economic performance. Both the premises and the effects were considered, taking into account the specificity of the energy sector in which the analysed companies operate.

Keywords: mergers and acquisitions, Chinese companies, European market, energy sector

JEL Classification codes: F53, L10, L20

INTRODUCTION

Conducting mergers and acquisitions plays an increasingly important role in the expansion of Chinese companies into the European market. Europe has become a promising direction for the location of investments, especially after the global financial crisis of 2007-2009, during the economic downturn which resulted in the inclination to seek new sources of financing of the economy and the market. According to the report of ING Corporate Finance Asia, China maintains a strong trend for undertaking mergers and acquisitions in Europe. This is evidenced by the results achieved by Chinese investors in the first half of 2015. During this period, Chinese companies established as many as 56 agreements in the form of mergers and acquisitions with a total value equal to 15.6 billion USD, showing an impressive, 30.2%

increase in quantity and 13% growth in value of the undertaken projects, compared to the first half of 2014, when they concluded a total of 43 contracts with a total value of 13.8 billion USD. This impressive upward trend is further indicated by the reference to the corresponding period of 2013, when there were conducted only 27 contracts with a total value of 5 billion USD (ING Report 2014; ING Report 2015).

Conducting mergers and acquisitions in the highly-developed European countries corresponds to the goals of the Chinese government plans related to the economic expansion abroad, including Europe. The results of the mergers and acquisitions are diverse within the sectors in which, the companies involved in these transactions operate.

The objective of the article is an analysis of the premises and consequences of the largest in terms of value investments of this sort, conducted in the period of 2005-2015 by Chinese companies on the European market, in the energy sector, i.e. agreements between: China National Petroleum Corporation and Eni Spa, China Three Gorges Corporation and Energias de Portugal SA, China Huaneng Group Corporation and InterGen NV, Sinochem Corporation and Emerald Energy, and China Investment Corp and Gas de France Suez.

The basis for the assessment of the development of agreements such as mergers and acquisitions in the European market are case studies conducted by the author and opinions of experts specialising in the business models of Chinese enterprises, derived from qualitative interviews. For the evaluations, the specialised literature on the subject of the discussed forms of international expansion of Chinese enterprises was also used.

1 CHARACTERISTICS OF THE ENERGY SECTOR IN CHINA

Back in the middle of the twentieth century, China did not play a significant role in the global energy sector. In 1965, energy consumption in the Middle Kingdom accounted for only 5% of the energy in the world, but after years of reform and development, this value increased to 18% in 2008. This, however, was still a far lower level than the average world level of power consumption (Chemia Przemysłowa 2010). Over the next near-ten years, the energy sector began to play a key role in boosting the development of Chinese economy and raising the standard of living of the population.

This was possible thanks to a dynamic growth of domestic production and consumption of energy even since 1980. It should be noted that about 80% of the generated power in the Middle Kingdom comes from fossil sources, 17% from water systems, and only 2% comes from nuclear energy, mainly from plants located in Guangdong and Zhejiang (World Nuclear Association 2016). This means that despite a large energy potential, a significant part of it still

needs development. It must be emphasized that the development of the energy sector has been the goal of the economic policy of the Chinese government for nearly 70 years.

This policy resulted in the use of the cheapest suppliers of energy resources, which meant that since 2006, China became the largest emitter of carbon dioxide and greenhouse gases in the world (Brahic 2007; Reuters 2006). Now, however, the ecological and climatic challenges force the companies to take action to protect the environment, which significantly affects the development of the Chinese energy sector.

It should be emphasized that China became the first developing country which, in 2007, formulated and published a strategy for action for climate change in the conditions of global warming (Andrews-Speed et al 2014; Xinhuanet News 2007). Part of this strategy planned, in the Twelfth Five-Year Plan (2011-2015), control of greenhouse gas emissions by setting the targets to reduce carbon intensity by 17% by 2015, compared to the level of 2010, as well as the improvement of energy consumption by 16% relative to GDP (Ni 2012).

The effects of these measures meant that China now plays a leading role in the production of renewable energy and the search for innovative ecological solutions (Jha 2008). It is expected that activities in the field of renewable energy sources will be driven to create an innovative economy and an innovative society in the upcoming years.

Despite the orientation to build a green, carbon-free economy and the funds invested in the development of alternative energy sources, mainly wind (58.5% of the funds) and solar power (30% of funds), it is estimated that over the next 15-20 years, coal, natural gas and oil will remain the basic energy carriers in China. According to statistical data for 2014, 66.5% of the energy still comes from coal production. Furthermore, it is expected that by 2020 China's share of global coal consumption will rise to 57% from 47% in 2010, putting the Middle Kingdom at the head of the rankings, ahead of the United States with their 28% share and Russia with an 18% share. This forces the Chinese government to modernise the coal mining industry through the introduction of new, environmentally friendly technology for mining and combustion, and by increasing the number of suppliers of crude oil and natural gas. This is reflected in China's engagement in environmental projects within the European Union countries, as well as in the United States.

Currently, China receives energy resources from all available sources, from Venezuela to Nigeria and Angola, as well as the Asian neighbouring countries. Focusing on the import of shale gas, in turn, caused China to spend nearly 50 billion USD on an agreement such as mergers and acquisitions in the energy sector since 2008. It should also be noted that the share of alternative energy sources increased from 6% in 2010 to 20% in 2014. This reflects the

changes that took place in recent years in the power industry of China, and the challenges that the country still faces (Góralczyk 2015).

2 PREMISES AND EFFECTS OF MERGERS AND ACQUISITIONS ON THE EUROPEAN MARKET IN THE ENERGY SECTOR

According to experts in the field of International Economic Relations, specializing in the issues of Asian countries (from Universities such us: Leeds University Business School, The University of Tokyo, Gakushuin University, Seikei University and Warsaw School of Economics), the European market was a favourable one for Chinese investors from the beginning, due to the large openness of the European Union to the variety of foreign investment. The increase in foreign activity of Chinese enterprises and the inflow of Chinese capital to Europe was, however, mainly related to the implementation of China's Go Global policy, under which the Chinese government is trying to encourage domestic enterprises to undertake foreign expansion and to acquire the necessary experience in order to prepare the Chinese market for a more intense competition related to the expected entry of China into the WTO. Until the introduction of the Go Global policy, China was focused on maintaining and gathering the largest resources of foreign capital in the country, while reducing investments outside the Middle Kingdom. The implementation of the policy of opening up to the world was perceived by the Chinese government as both a chance of access to knowledge and modern technologies, and thus to innovation, as well as the best way to invest the foreign currency reserves held by the Middle Kingdom.

A sign of the expansion of Chinese investment in all countries of the EU is their location in an increasing number of sectors. As seen in the analyses conducted by the American consulting firm Rhodium Group, the sector which was the subject of greatest interest to the investment of Chinese enterprises in the years 2000-2014 was the energy sector, as evidenced by the value of agreements conducted in that sector, for the sum of close to 13 billion EUR. Besides the energy, Chinese companies invest mostly in the following sectors: automotive, engineering, and information and communication technologies, where China signed agreements of the following value, respectively 6 billion EUR, 4 billion EUR, and 3 billion EUR. When it comes to investments in the services sector, they are mainly focused on the transport sector, in which was allocated 2 billion EUR, and the sectors that generate higher added value, such as biotechnology or finance, where in the above mentioned period China invested a total of 3 billion EUR. Sectors which quite recently, since 2013, became the focus of Chinese investors, are, in turn, agriculture and food, in which China invested a total of 5 billion EUR and real

estate, which also included an agreements for an amount of 5 billion EUR. What also needs to be emphasized is the great importance of the mining sector, which, in the above mentioned period, was one of the main directions of investment of Chinese companies (Hanemann & Huotari 2015).

Tab. 1: Major, in terms of value mergers and acquisitions conducted by Chinese companies on the European market over the period of 2005 – 2015 in the energy sector (included in the case study)

Chinese company	European company	Country	Sector	Value	The share of Chinese companies in the European company (%)	Year
China National Petroleum Corporation	Eni Spa	Italy	energy	4,210 bn USD	28,57% + 20% (in mining extraction)	2013
China Three Gorges Corp	Energias de Portugal SA	Portugal	energy	3,5 bn USD	21,35% (majority stake)	2011
China Investment Corp	Gas de France Suez (ENGIE)	France	energy	3,15 bn USD	30% + 10% (of the liquidation)	2011
China Huaneng Group Corp	InterGen NV	Holand	energy	1,232 bn USD	50%	2010
Sinochem Corp	Emerald Energy PLC	Great Britain	energy	878,2 bn USD	100%	2009

Source: Own compilation based on (Hansakul & Levinger 2014) and self-conducted case study analysis

The energy sector is currently facing particular challenges, with societies aspiring to achieve sustainable development, which requires the use of new, environmentally friendly power generation technologies.

The analysis of major, in terms of value agreements between Chinese and European companies over the last decade (Table 1) proves that decisions about signing agreements such as mergers and acquisitions are strongly conditioned by the adopted strategic directions of development of the companies, their desire to develop a competitive position in the market, as well as to improve their financial condition. Table 2 summarises the premises for conducting the agreements such as mergers and acquisitions from the point of view of the Chinese and European enterprises.

Tab. 2: Main premises for signing agreements such as mergers and acquisitions by Chinese companies and European companies

For a Chinese company	For a European company
• The pursuit of the strategy of international expansion and strategic development of the company, • The desire of the company to develop/strengthen their competitive position on the market, • The desire to improve the financial condition of	• The desire to maintain/improve the competitive position on the market, • The need for financial support after the global crisis of 2007-2009, • The use of potential of Chinese companies - mutual exchange of benefits,

For a Chinese company	For a European company
the company, • The need to acquire a modern and environmentally friendly technology, • The pursuit of government policy in China focused on the development of an innovative economy and an innovative society, • The desire to find a basis for sustainable development, • The desire to develop a low carbon economy, • The desire to change the image, increase the prestige and visibility of the company logo, • The chance for the acceleration of the internationalisation process of the company.	• The opportunity to increase the company's market share in the Chinese market, • The desire to strengthen the directions of sustainable development, • The improved prospects for development in the long term.

Source: Own compilation based on the results of case studies of selected M&As conducted by Chinese companies on the European market between 2005 and 2015, as well as on the results of in-depth interviews conducted with experts in the field of International Economic Relations, specializing in the issues of Asian countries.

The main premises of the agreement established by the China National Petroleum Corporation and Eni Spa was striving for the development of productive activities in a particularly rich in natural gas deposits in areas of East Africa, which was crucial for the Chinese company, given China's need for natural gas and the policy of Beijing focused on increasing domestic consumption. CNPC also focused on building a network of relations and development of cooperation with foreign partners who have the necessary know-how in the areas where Chinese companies feel deficient.

Similarly, in the case of China Three Gorges Corporation, the interest of the Chinese company in the acquisition of shares in Energias de Portugal was the only part of a larger strategy of the company's expansion into the European market and the expansion of its business into new markets in North America and Brazil. On the other hand, the main objective of the partnership between Gas de France Suez (ENGIE) and the China Investment Corp was the use of the rapidly growing demand for liquefied natural gas in Asia and establishing close contacts with energy industry stakeholders operating in the region.

Taking into account the value of the assets of the Dutch company InterGen, the Chinese investor, the China Huaneng Group Corp, saw the transaction as an opportunity to accelerate the company's internationalisation process while developing the potential of the Dutch partner. The partnership between the companies was supposed to promote an increase in their ability to conduct international operations, as well as expand the energy business conducted by the companies.

In the case of agreement between the Emerald Energy PLC and Sinochem Corp, the agreement between the parties was supposed to enable the Chinese company to, among

others, optimise the structure of the reserves of oil and gas, and also facilitate the strategic placement of their mining assets in South America and the Middle East in order to build a solid foundation for future growth in these areas. Despite the small size of that acquisition, its main purpose was to stimulate the mining activity of Sinochem.

The benefits of agreements such as mergers and acquisitions should be considered both from the perspective of companies initiating them, i.e. Chinese companies, as well as from the perspective of the acquired companies, in this case, the European companies. In addition, the analysis of the impact of mergers and acquisitions should take into account the challenges faced by businesses in today's market, as well as the intricacies of the sectors in which the agreements are made between companies.

Tab. 3: Main effects of agreements such as mergers and acquisitions conducted by Chinese companies and European companies

For a Chinese company	For a European company
• The growth of the company's potential and establishing technological and research cooperation with a European company, • The strategic transformation of the company and the restructuring of its business portfolio, • Maintenance of permanent, positive growth rate, • Improving the effectiveness through rationalisation of production processes - reducing costs, • Strengthening the market position of the company, and even becoming the leader in the industry, • The access to new markets and new customers, • The implementation of environmental policy and rules (increasing social responsibility), • The ability to use new models and risk management practices, • The use of the prestige already developed by a foreign company, • The development of a new model of partnership..	• Attracting Chinese strategic investors to the European market, • The access to the Chinese market and local natural resources, expanding the activity to the markets in the Asia-Pacific region, • Strengthening the production potential by developing technological and research cooperation and implementing advanced technologies, • Obtaining new jobs for the local population, • Creating opportunities for long-term development of companies, • The strengthening of the market position and competitiveness of the company, • Improving the efficiency of the projects and production processes and strengthening the financial stability of the companies, • Increasing the scale of investment in renewable energy and achievements in promoting ecological solutions, • The development of a new model of partnership, • Creation of new business development prospects around the world.

Source: Own compilation based on the results of case studies of selected M&As conducted by Chinese companies on the European market between 2005 and 2015, as well as on the results of in-depth interviews conducted with experts in the field of International Economic Relations, specializing in the issues of Asian countries.

The main effects of mergers and acquisitions are presented in Table 3. Based on the analysis of five selected cases, agreements such as mergers and acquisitions made in the energy sector within the last decade reveal the following main effects of agreements between Chinese companies and their European partners. In particular, there is an emphasis on the possibility

for the use of advanced technology and know-how by the Chinese companies, allowing the rationalisation of production processes, which ultimately leads to lower costs.

Furthermore, foreign expansion contributes to the restructuring of the business portfolio of companies, and the increase of their potential has a positive influence on the development of cooperation with European partners. As a result, it becomes easier to identify new areas of oil and gas extraction. These benefits, observed, among others, in the case of China National Petroleum Corporation, can also be perceived in the case of China Three Georges, whose expansion on the European market created an opportunity for the company to establish technological cooperation and research, and the achievement of synergies with the projects carried out jointly with the European partner.

The China Investment Corporation, on the other hand, significantly improved its efficiency by an increase in investment income and total revenues, as well as in lower prices. Moreover, the company engaged in investments focused on the development of areas of renewable energy in developing countries, expressing aspirations to create a global low-carbon economy.

The result of the established agreement between Sinochem and Emerald Energy was the strengthening of the Chinese company's market position, both in the Middle East and in South America, as well as in China. Moreover, the company managed to maintain a solid positive growth rate, undergoing a transformation in key business segments, and strengthening its position in the international arena.

Finally, the acquisition of shares in InterGen by China Huaneng contributed to the internal modernisation of the company and maintenance of a high level of performance of its activities, which translated into positive economic results. This, in turn, enabled the company to transform into a global leader in the industry, and implement the concept of sustainable development in the field of energy.

This direction is consistent with the objectives of the government policy in China, which focuses on the development of alternative energy sources, which are a key component of stimulating both the development of an innovative economy and an innovative society, as well as the implementation of other strategic goals of the Chinese government, challenging not only for the field of energy in China, but also for the global energy sector (Góralczyk 2015).

In turn, looking from the perspective of European company the following effects of agreements such as, mergers and acquisitions, conducted with Chinese companies can be indicated:

- Attracting Chinese strategic investors to the European market and expanding business activities to other markets, including those in the Asia-Pacific region,
- Strengthening the production potential by developing technological cooperation and research, and by the implementation of advanced technologies,
- Improving the efficiency of the projects and production processes and strengthening the financial stability of companies,
- Increasing the scale of investment in renewable energy and achievements in promoting ecological solutions that contribute to the development of a low-carbon economy on a global scale,
- Creation of new business development prospects around the world.

CONCLUSION

In conclusion, it is important to emphasize the fact that the benefits of mergers and acquisitions in the energy sector are revealed in: the strategic aspect, since there is a strategic transformation of Chinese companies, as well as in the tactical aspect, expressed by the changes made in the management of companies and in the operational aspect, by the increase of the efficiency of their undertakings.

As follows from the analysis conducted by the author on a number of agreements such as mergers and acquisitions, Chinese companies, i.e. the initiators of mergers and acquisitions, mainly expect to obtain new technologies and new concepts and management models. Thanks to those, they can modernise the system of company management and production processes. It also allow them to support the rationalisation of these processes and the strengthening of the competitive market position of the companies.

A positive result of the mergers and acquisitions may be also the tendency of social responsibility attitudes creation in Chinese companies, which require the use of environmentally friendly solutions. It is consistent with their objectives related to the achievement of sustainable development.

On the other hand, European companies, participants in mergers and acquisitions, obtain obvious benefits in the opportunities of access and expansion to the Chinese market, and in particular in the access to suppliers and a rich base of raw materials. Moreover, thanks to the agreements signed with Chinese partners, European companies improve and stabilise their financial situation, which can be considered a key factor in the implementation of the adopted development strategy.

The influx of Chinese capital onto the markets around the world, including the European one, plays an important role in the process of adding dynamics to the economies most affected by the financial crisis of 2007-2009. The increased activity of Chinese companies in Europe contributed not only to lower costs of infrastructure projects and the creation of new jobs, but it also created opportunities for greater and easier access to the Chinese market for local companies, and raised the profitability of research and development activities, all due to the great interest of Chinese companies in European technology (Millner 2012). This gives hope that due to the intensification of China's international expansion and the involvement of Chinese investors in the international arena, the changes to legislation to facilitate the investments of foreign companies in the Chinese market, not only in the energy sector will be introduced.

It is, however, important to note that the increased investment activity of Chinese companies on the European market entails a number of challenges for the markets which receive the incoming capital, not only in the economic sphere but also in the political and cultural ones. They stem from significant ideological and cultural differences, a difference in management models, and political influence on the international arena.

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Seniors as Heterogenic Target Group

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Abstract: Aging of the society is global phenomena and amount of seniors is growing steadily also in the Slovak Republic. Marketing professionals are well aware of the fact that seniors are not one homogenic group but they can be divided in more subgroups. Each of these subgroups has its own needs, opinions and consumer behavior. The article is focused on the analysis of senior's segment as unique heterogenic target group. It contains also results from author's own survey focused on similarities and differences in segment of seniors and presents composed typology of Slovak seniors.

Keywords: population's ageing, senior, typology of Slovak seniors

JEL Classification codes: M31

INTRODUCTION

One of the most important demographic trends in the society of developed countries nowadays is population's ageing. It is demographic process that increase share of old people on the society as whole. It is not classic evolutionary pattern but rather consequence of new demographic trend that is nowadays caused mainly by decrease in fertility rate and increase in average lifespan.

Whole Europe is ageing at the fastest pace worldwide. None of the countries of the EU is able to reach fertility rate that would at least keep steady numbers of inhabitants. Demographists are considering this value on 2.1 child on one woman in reproduction age. Closest country to this limit is Ireland with two children. Post-communist countries have much lower fertility rates. Actual fertility rate in the Europe is only 1.58 child on one woman and in many countries it is even lower rate. In Slovakia it is currently 1.31, in Czech Republic 1.49, in Poland 1.38 and in Hungary only 1.25 child on one woman (Hvozdíková 2014). In countries with higher level of income it is expected that in year 2050 will be average human's lifespan 81.6 year in comparison with 74.8 years in years 1995-2000 (Páleník et al. 2014). In the last 50 years, has been the average expected lifespan in the European Union increased by approximately 10 years for men as well as women.

Prognoses are also predicting that demography in the Slovak Republic will continue in terms of trends observable also in EU. That means lower fertility rate and population's aging. It is

also confirmed by report released by European Commission and Eurostat about demographic trends in European Union. New report is stating that in Slovakia have been living in year 2010 12,3% of inhabitants aged 65 years and more what has been seconds lowest percentage share after Ireland. It is expected that until year 2060 will be share of people aged over 65 years and more on level of 36,1% of whole population what will put Slovakia on second place after Poland (36,2%) with highest rate of population's ageing. In year 2060 will be Slovakia according to predictions the fourth oldest country from original twenty seven countries (European Commission 2011; Eurostat 2012).

Nevertheless is in the economy still preferred young generation. It is important to note that current older generation is in terms of consumer's behavior several fold younger as it was twenty years ago. Seniors can be defined from marketing point of view as very heterogeneous group. In connection to this is the goal of this article to present partial results about author's realized research focused on the examination of the segment of Slovak seniors as the heterogeneous group of consumers.

1 LITERATURE REVIEW

Term *senior* originated from Latin world *senex, senis* (old). Its comparative degree senior describes older person (Rutishauser 2005). According to authors Šaling et al. term senior represents older or the oldest member of the society or team (2005). Kölzer (1995) states that term senior describes „older person" and is used as positive term for ageing that use to be mostly connected with negative associations as powerless or ill.

New nomenclatures are emerging for older generations because of the fact that seniors are nowadays in better physical and psychical condition than ever before. These new nomenclatures are more positive such as „50 plus", „Best Ager" or „Generation Gold". All these new terms used for seniors nowadays are making it harder to exactly characterize this group of population.

Definition of the term senior is in literature *not unified* mainly about *starting age* from when could be person considered as senior. To exactly define target group of seniors is challenging. Some authors (Dichter 2000; Neunzig 2000) state that it is person who is older than 50 years. Other authors (Krescanková 2015) add ten more years. Many authors, institutes and companies (Bovensiepen & Schögel 2006; Reidl 2012; Schuckel 2014) who are researching this area most frequently define term generation 50+ or group Best Ager and in terms of these segments are classified other smaller more-generational groups of seniors.

In our local conditions is Slovak Academy of Sciences SAV in publication *Strieborná ekonomika – potenciál na Slovensku* defining older generation with age limit of 50 years and more. Since this group of people is much diversified from many angles (economic activity, education, income, health condition, et cetera) is this category divided on more subcategories (Páleník et al. 2014):

- young-old: people from 50 to 64 years,
- old-old: people from 65 to 79 years,
- oldest-old: people from 80 and more years.

Age group of 65+ is defined according to authors of the publication as *seniors* and by term *silver (economy)* are defined people older than 50 years.

Schiffman and Kanuk (2004) note that nowadays seniors cannot be considered as old people with classical and traditional thinking but rather it is needed to take in consideration new forming segment of seniors – those who feel younger and also their consumer behavior is adapted to it.

Seniors today form very interesting segment of the society. On the first look they form homogenic group of people with same interests and preferences. Results of foreign research studies *„Die Best Ager – Eine homogenne Zielgruppe?“* from company TNS Emnid (Petras 2006) and research from cooperating partners PwC and Institut für Handel und Marketing *„Generation 55+“- Chancen für Handel und Konsumgüterindustrie“* (Bovensiepen & Schögel 2006), bring also different point of view on this issue. In comparison with other age categories they are more diversified in their opinions, views, activities and consumer behavior. Seniors are nowadays healthier, more informed and they have interest to be integrated in the society more than ever before. Even though they are physically older they feel young psychically and they also adjust their consumer behavior to it.

Because of this reason, it is pretty much impossible to define one big target group of seniors. The senior market is not homogenic but it has different and unique characteristic features. Appropriate tool to distinguish the needs of older consumers is concept of market segmentation. Different approaches exist to market segmentation of seniors and most popular are *segmentation by age* (Krieb & Reidl 2001; Rössing 2008; Lukačovičová 2012), *phases of lifecycle* (Meyer-Hentschel, 2004) and by *lifestyle* (Rutishauser 2005; Krescanková 2012).

Changes in the target group of the older generation in comparison to the past is analyzed also in the research study about senior's lifestyle *"Senior-Scout-Lifestyle"* from German company A.GE (Reidl 2012) and research study "A.GEneration" from the company Factum Invenio in

Czech Republic (Vysekalová 2011). These studies confirm that generation of the seniors is not one homogeneous segment but typologically diversified heterogeneous group.

The multiplicity of different segmentation variables and possibilities confirms how heterogenic target group of seniors is nowadays. This group of people has many specific and individual requirements and demands. It is clear that through segmentations of senior market has to be basic assumption for successful marketing oriented on seniors.

2 METHODOLOGY

According to previously stated discoveries and results of researches of globally-known research agencies and institutes is the term senior connected with heterogenic target group and its members have different behavior, opinions, psychical and physical characteristics that require different needs and determine consumer behavior. The realization of own marketing research was aimed at the verification of need to research the segment of seniors as heterogeneous consumer group also in the local environment.

The aim of the research study was to identify similarities and differences in the segment of seniors from point of view of social and demographic characteristics, lifestyle and consumer behavior and afterwards to use method of cluster analysis of respondent's answers to create typology of Slovak seniors.

In this article are presented partial results of research realized on sample of 204 respondents. Target group was consisting of seniors living in eight regional capitals of the Slovak Republic. Since many approaches to this topic and their authors (Dichter 2000; Neunzig 2000) who research target group of seniors state that beginning of senior's age is 50 years and more we also targeted sample 50+ years in our research. Targeted sample of respondents was therefore consisting also of younger groups of seniors in literature mostly referred to as pre-seniors or younger seniors. Research sample was selected with contingent selection according to gender, age and place of residence.

The basis for the research study was primary data personally connected by consulting using structured questionnaires which were simply and clearly formulated so also older generation would understand them. Different types of questions were used including scale questions, closed questions and one open question. In connection with our objective we were focused in terms of questions on variables where were we expecting differences in behavior and opinions of respondents.

The questionnaire was divided to these thematic units:

1) Classification of respondents according to their social and demographic characteristics (gender, age, education, place of residence, economic activity, type of household and subjective evaluation of their financial situation).
2) Frequency of practicing of selected activities typical for seniors.
3) Interests and hobbies of respondents.
4) Travel of respondents.
5) Buying and consumer behavior of respondents.
6) Perception of importance of selected life values.

Acquired data were processed with statistical application SPSS. With use of mentioned application were calculated the Chi-squared tests for independence of variables. Statistical significance was measured on p-value $p \leq 0,05$ for all tests.

3 RESULTS AND DISCUSSION

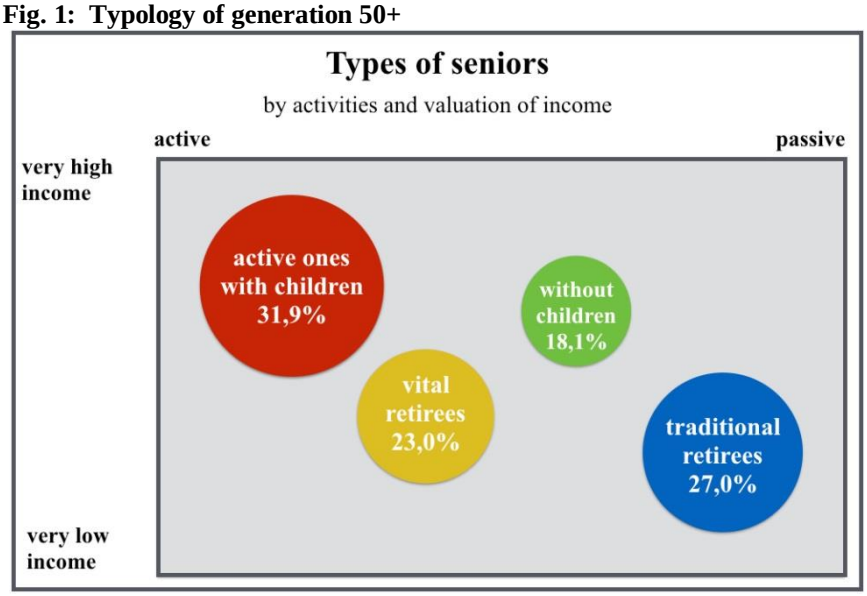
Clustering method K-Means was used for the creation of segments. This method is based on vector's quantization – individual responses are grouped in the clusters based on the similarities of the averages (answers).

With statistic method of cluster analysis of respondent's answers was we able to create typology of generation 50+ and we identified four types of seniors.

1) Active ones with children – 65 respondents (31.9%)
2) Independent ones without children – 37 respondents (18.1%)
3) Vital retirees – 47 respondents (23.0%)
4) Traditional retirees – 55 respondents (27.0%)

On figure 1 is shown position and percentages representation of each type of seniors in final clusters based on the evaluation of activities and incomes of respondents. Proposed typology brings more complex look on generation of 50+ because it analyses and categorizes seniors not just by social and demographical variables but also by researched activities (for example economic activity, free time, travel, hobbies and social contacts) and consumer behaviors.

Fig. 1: Typology of generation 50+



Source: own processing

In the next part of the article we are discussing partial results from the realized research study and we specify profiles of four identified typologically diversified groups of seniors.

Active ones with children (31.9%)

For group of active retirees with children is characteristic highest activity in the area of consumer behavior and active spending of the free time. Three quarters of this sub segment (72.3%) is created by people aged from 50 to 59 years and one quarter (26.2%) are seniors in age from 60 to 69 years. Up to 93.8 percent are economically active seniors which are connected to their more positive financial situation. Two thirds (64.6%) have income that partially covers their expenses plus they can also accumulate savings. Three quarters (73.8%) of these seniors live in mutual households with their children what differs them from other types of seniors. Men are represented by 46.2% and women by 53.8% what is similar to whole selected sample. Active seniors with children are mobile and independent. Up to three quarters of them (73.8%) drive with the car on daily basis. They are also intensively using modern technologies with daily use of the internet on 86.2%. In consideration of their age and sufficiency of their financial assets are they also spending their free time actively. Three quarters (75.4%) were in year 2015 on vacation abroad and two thirds (65,2%) were on the vacation in Slovak Republic. Two thirds (66.2%) of this sub segment try new products available on the market what makes them very interesting target group for marketing of new products.

Independent ones without children (18.1%)

Similarly to previous group of seniors are also without children still economically active. Three quarters (73.0%) from them are seniors in age 50 to 59 years and one fifth (21.6%) are seniors aged from 60 to 69. Valuation of own financial situation is less positive than in previous group. Biggest subgroup among retirees without children (54.1%) has sufficient income to cover everyday expenses but they cannot save anything from their income. In comparison with previous type of seniors only one thirds (32.4%) live in mutual household with their children and up to 67.5 percent live in household without children. They are either living alone or with husband/wife or partner. This characteristic differ them statistically by big scale from previous group. Otherwise are these two groups in many areas of the typology similar. Men are represented by more than one half (56.8%) of this sub segment and women are represented by 43.2%. Almost half of them (48.6%) use automobile and two thirds (64.9%) use internet on daily basis. In terms of consumer behavior in the comparison with other types of seniors are retirees without children more intensively shopping in shopping centers. Up to two thirds (64.9%) on regular basis what means almost every week. Interesting is that from all identified types of seniors is this group most active in terms of sports (up to 56,8% play sports regularly).

Vital retirees (23.0%)

Characteristic for this type of seniors is active way of spending free time on the retirement. Up to 93.6% of seniors of this group are already retired. From financial perspective have these seniors main income source from pensions and do not have alternative source of the income. Almost three quarters (70.2%) are evaluating their incomes as sufficient to cover everyday spending but they cannot save any part of their income. More than one half (55.3%) of this group is represented by older seniors in age from 70 to 79 years and one third (38.3%) is aged from 60 to 69 years. Two thirds (63.8%) of this sub segment is represented by men and women are represented by 36.2%.

Compared to other types of seniors they are most intensely devoted to their hobbies. Two thirds (63.8%) are going on a walk every day and almost one half (42.6%) read books on daily basis. They have also the biggest trust and loyalty to their favorite brands.

Traditional retirees (27.0 %)

They are the second biggest identified group of seniors. In terms of economic activity is this subgroup represented mostly by retirees (72.7%). It is very important to note that all age categories are represented by approximately same percentage share in this sub segment. One fifth (21.8%) are oldest seniors aged above 80 years and what is also interesting is that 25.5%

is represented by people aged from 50 to 59. We can therefore agree with opinions presented in scientific literature that in association with evaluation of the senior segment is the age definition less important and more crucial is psychological overview of target group. Seniors in this group are evaluating their financial situation in the most negative way from all groups. Up to one quarter (23.6%) is evaluating their income as insufficient and therefore they need to use their own saving or borrow financial resources. Up to 72.7% in this group is represented by women while men represent 27.4%.

In comparison to other types of seniors are the traditional retirees not very active when spending their free time. They are more intensively watching television. Up to 92.7% of traditional retirees is watching television on daily basis. In terms of consumer behavior are they more sensitive to price of the product and up to 40.0% prefers cheap products. They are also looking more for sales and bargains. Up to 74.5% prefers to buy discounted products. In terms of interest to try new products is this group most conservative. Less than one half (45.5%) likes to try new products.

The results of realized author's research and other renowned foreign researches confirm that seniors cannot be defined as one homogeneous segment but typologically very heterogeneous group. Among biggest similarities of Slovak and foreign seniors belongs growing importance of the internet usage, similar hobbies in terms of television and books and similar value orientation. Slovak seniors in comparison to foreign seniors tend to sport and travel less, do not pay so much attention to cultural and wellness activities. Their shopping behavior is oriented more on overall price while foreign seniors tend to pay more attention to overall quality of the product.

CONCLUSION

Based on the research's results were specified four segments of seniors:

- *Active ones with children* – youngest, financially secured seniors with the highest education. They are active and mobile. They use internet on daily basis. They do not prefer cheap products, like new things and prefer to buy in hyper- and supermarkets.
- *Independent ones without children* – economically active seniors who live in households without children or family. They spend their free time practicing their hobbies, they use internet regularly and like to shop in shopping centers.
- *Vital retirees* – this group consists mainly of older seniors on the retirement, who spend their free time in an active way and have broad spectrum of interests. They prefer sales and have the biggest loyalty for the brands.

- *Traditional retirees* – they are on retirement, have limited income and health issues. They prefer to watch television, look for discounts a like to buy goods in small shops close to their home.

Based on observations from the research can be stated that segment Slovak of seniors includes on the one hand active, mobile and young-feeling seniors who like to travel, use new technologies, play sports and try new products. On the other hand, are also older people who have limited incomes, less activities, more health issues and have relatively lower consumption. Because of these factors when planning strategy oriented on older population should marketing agencies inspire not just from basic and common senior characteristics. Just as important are characteristics that diverse different groups of seniors from each other. It is needed to distinguish between active and passive seniors, financially secured seniors as well as those with lower incomes. Other important factor is whether they like to try new things and products or if they prefer traditional values. Each type of seniors should be subsequentially targeted with customized marketing communication. Everything from offered products, adjusted prices and distribution channels should be accustomed to fulfill diversified needs of the heterogenic group of seniors.

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Approaches and Research Methods in Intercultural Marketing

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Abstract: In conditions of internationalisation of activities of enterprises, growing importance of marketing research that enables recognition of culturally determined consumers' behaviours is observed. Knowledge about cultural differences developed during research provides the basis for making decisions concerning the scope of standardisation and adaptation of strategies and marketing programs on particular markets. The goal of the paper is to show approaches and research methods that find application in making decisions in intercultural marketing. Research model based on cultural approach that takes into consideration cultural circles as well as types and dimensions of cultures, decision problem, procedure and research methods and techniques are the result of considerations and analyses.

Keywords: marketing, culture, marketing research, triangulation

JEL Classification codes: D19, M19, M31

INTRODUCTION

Conducting marketing activities in conditions of internationalisation of enterprises results in the fact that the importance of marketing research aiming at recognition of culturally determined consumers' behaviours is increasing. In intercultural relationships, it is vital to have knowledge about the structure of values in a particular group, their traditions and customs affecting cultural orientations and also applied symbolism and patterns of behaviours in various situations. This constitutes the basis for making decisions concerning the scope of standardisation and adaptation of strategies and performance of marketing activities on particular markets. This is mainly related to observed processes of divergence that refer to growing importance of cultural distinctiveness.

The goal of the paper is to show approaches and research methods that find application in making decisions in intercultural marketing. Special attention is focused on emic and etic research approaches, conditions of their application and also the issues of ensuring equivalence.

A proposal of model approach to the process of marketing research conducted in multicultural environment is the result of considerations and analyses performed on the basis of previously implemented own research and also research of other Authors. The model considers cultural

circles as well as types and dimensions of cultures, decision problem, stages of marketing research process and research methods and techniques.

1 LITERATURE REVIEW

Apart from the phenomenon of deterritorialisation of cultures and processes of cultural diffusion, there are significant differences between individual nations that determine marketing strategies and activities. Cultural differences between individual nations that must be recognised in processes of marketing research are expressed in different ways of thinking, experiencing, behaving and communicating.

Relationships between consumers, their behaviours and culture can be analysed with respect to (Arnould & Thompson 2005):

- processes of formation, by the consumer, of identity as an effect of marketing activities of enterprises that are the source of symbolic capital achieved by the consumer,
- emergence of autonomous consumer communities that enable their participants to implement the goals associated with consumption,
- relationships between consumers and social, as well as institutional structures,
- consumer attitudes towards durable social norms.

The analysis of scientific achievements also allows for the statement that depending on the power of relationship of a product with a particular culture, product categories including culture-bound products and culture-free products can be distinguished (Mesdag 2000). Culture-bound products are strongly associated with culture and thanks to their long-lasting existence in culture of a particular community, they are more difficult to be globalised or standardised.

It ought to be emphasised that the emergence of symbolic meanings attributed by consumers to products and brands, is the result of not only conducted marketing activities but it is also associated with the influence of other consumers and values recognised by consumer, that are embedded in culture or subculture in which they function (Ahuvia et al. 2006).

While showing the importance of cultural differences, significant literature output in the area of culture dimensions and cultural orientations ought to be indicated. Updating and expanding knowledge resources and interrelated development of cultural competences that determine effective performance of activities in international dimension, demands performance of research in the segments of elementary culture dimensions in the way that does not neglect essential qualities of differences in this sphere. Culture dimensions to be applied include:

power distance, time orientation, universalism and particularism, access to living space, perception of time, restraint and emotionality, attitude towards natural environment, control over nature and submission to nature, avoiding uncertainty, femininity and masculinity, conviction as for the human nature, individualism and collectivism, status attained and status attributed (Trompenaars & Hampden-Turner, 2002; Usunier 2000; Hofstede 2000).

Cultural differences result in the fact that performance of research is often associated with difficulties in ensuring notional and functional equivalence and categorisation of the research object. Therefore, it is also necessary to verify units of measurement (calibration equivalence), metric equivalence with respect to verbal measurement scales, and interpretation equivalence. Apart from equivalence of research object and equivalence of measurement it is also important to verify research sample and equivalence of the process of direct research (Cavusgil & Das, 1997a; Cavusgil & Das, 1997b; Karcz 2004; Malhotraet al. 1996). Identifying and solving the problem of equivalence is fundamental from the point of view of comparability of data.

Conducting international marketing research demands description of approach, according to which they are executed. In research methodology, emic and etic approaches are distinguished. Emic approach consists in studying behaviours of market entities in one country or cultural area while considering cultural determinants and adaptation of measurement instrument for cultural context. On the other hand, adoption of etic perspective demands generalisation of cultural similarities and application of the same tools in the study of phenomena and processes in various countries and cultures (Duliniec 2004; Hibbert & Liu, 1996). Although etic approach allows for research standardisation, it decreases accuracy of results and brings some doubts concerning application of this methodological option in studies of motivation, attitudes and hierarchy of values or lifestyles.

Finding a solution to emic-etic dilemma may consist in application, at the stage of research implementation, the methods belonging to the emic approach that enable identification of determinants of consumers' behaviours specific for individual cultures, and in the case of recognising remarkable cultural proximity, research methods and procedures compliant with etic perspective. Conducting research of etic type demands existence of similarities in results of research based on emic approaches conducted in various countries. Etic approach finds application in research of countries characterised by cultural similarities, whereas adopting research procedures compliant with emic perspective is relevant for the countries of considerable cultural distance.

Classifications of national cultures may be helpful in these processes. On their basis, cultural circles including Anglo-Saxon, German, Nordic, Middle-Eastern, Arabic, Far-Eastern, Latin American, Latin-European and the circle of non-typical cultures can be distinguished (Koźmiński 1999).

The option consisting in construction of research tool that would include universal (etic aspect) and culturally specific (emic aspect) questions is also a solution adopted in international research (Brzeziński 2004). Measurement instruments constructed in this way allow for avoiding inconsistency between elimination of content that is specific for a particular culture and replacing them with the content that is specific for the culture towards which the tool is adopted, and the instrument for making comparisons between cultures, rich in universal content and deprived of content that determines culturally specific relevance.

2 POTENTIAL OF QUALITATIVE METHODS OF MARKETING RESEARCH IN INTERCULTURAL MARKETING

In research conducted for the needs of intercultural marketing, both qualitative as well as quantitative researches are applied. Quantitative research is located mainly in "etic" trend, whereas qualitative research usually has "emic" nature.

Qualitative research performs a special role in research of foreign markets because they reveal differences between domestic market and foreign markets. This is because they help researchers formulate relevant questions and hypotheses.

Furthermore, attention should be focused on research of cultural standards defined as processes of perception, thinking, evaluation and activity that are approached by majority of members of a particular culture as typical, obliging and those controlling obligations. Research process in result of which, a researcher comes from a critical incident to a cultural standard has a qualitative nature. In this case induction method is applied. The starting point here is recording interviews conducted with people who, in the country of a different culture, are participants of unexpected and inexplicable events disturbing performed activities, and evoking strong emotions and comparisons with their own country. Research participants are asked to interpret critical incidents. The events that are repeated are the subject of analysis performed by non-involved guest culture members and bi-cultural experts, and single incidents that are results of personality features of an individual are eliminated. The analysis of the content of experts' opinions constitutes the basis for construction of cultural standard (Boski 2009).

Data, information and consequently also knowledge obtained thanks to performance of ethnographic and semiotic research provide considerable support in decision-making processes in the sphere of intercultural marketing.

Ethnography belonging to qualitative methods is characterised by the fact that research is conducted in natural environment of studied people, therefore it allows for thorough understanding of the culture determining consumers' lifestyle and shaping activities undertaken by them. It must be emphasised that application of thick description that reports not only behaviours of individuals, but also pays attention to their intentions, motivation, emotions and interactions in social networks is important. Without such a description, studied phenomena and processes become separated from cultural context. Ethnographic method finds application in research of consumers belonging to various cultural circles, particularly because it allows for reaching local knowledge and tacit knowledge having roots in a particular place and time, that is difficult to be presented through verbalisation. Observation, interview and text analysis occupy a special position among research methods applied in ethnography. It must be emphasised here that it is very important to combine at least two methods in the research (Kostera and Krzyworzeka 2012).

Apart from classical methods of qualitative research, a large potential is offered by semiotic research in which texts of culture, including also mass culture such as films, TV programs, popular literature, press and advertising perform a special role. This research departs form declaratory statements of consumers for the benefit of analysis of elements of culture that shape consumers' behaviours. It must be emphasised that semiotic research allows for discovering differences between values offered by brand and changing cultural pattern. The analysis of a product as a sign or symbol concerns both denotative meaning associated with functional needs and expectations, and also connotative meaning related to the group of features and qualities of a product that describe the buyer rather than the very product (Nöthet al. 2001).

Semiotic research find application in processes of acquisition of cultural insights concerning consumers' behaviours and also in shaping the strategies of product positioning, creation of brand portfolio, identification of ways of brand narrations, creation of messages of communication and in cultural branding.

At the same time, it ought to be noticed that complexity of contemporary decision-making problems results in the fact that there is a need to go beyond a simple research project that applies one of semiotic concepts, and to implement projects based on combining methods

within semiotic approach, as well as to perform research applying semiotic analyses in connection with classical qualitative and quantitative research.

3 RESULTS: MODEL OF RESEARCH IN INTERCULTURAL MARKETING

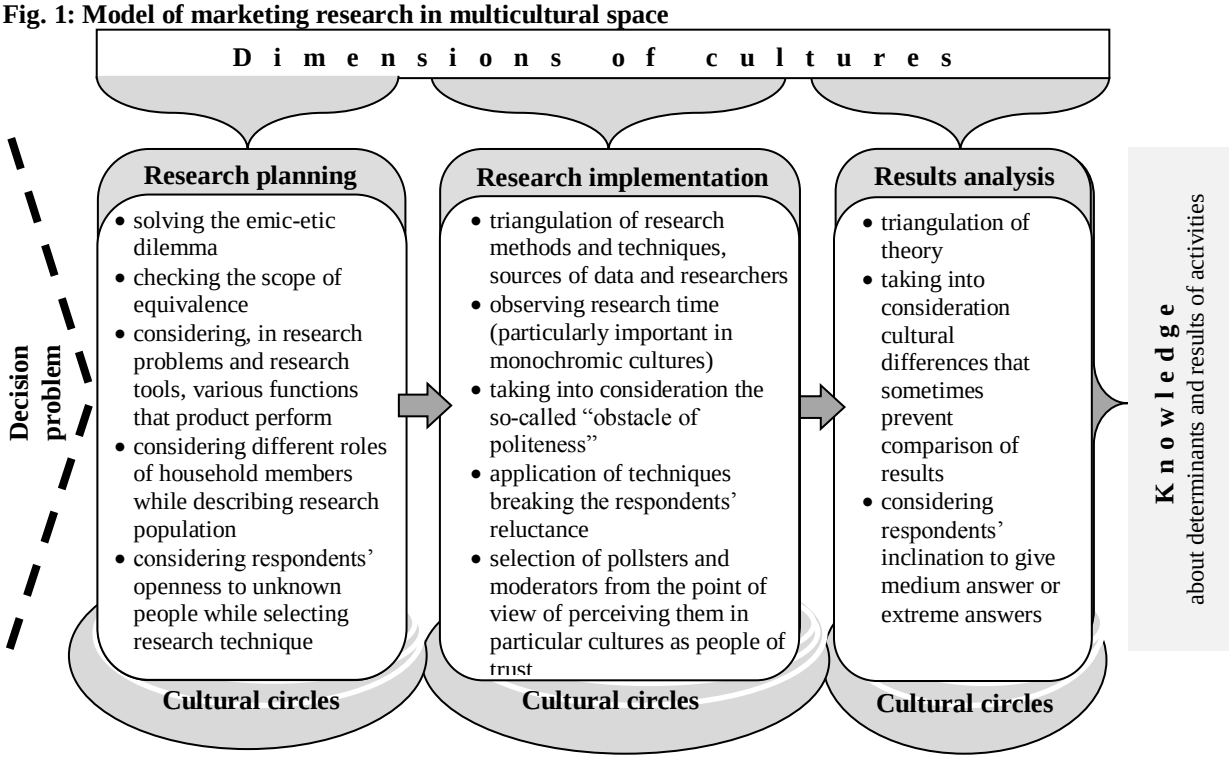
Literature analysis and own research experiences encourage to create a proposal of a model of marketing research in multicultural space. It is based on the assumption that cultural determinants ought to be considered at every stage of research process, including the stage of research planning, its performance as well as analysis and interpretation of results. This model may find application in performance of research associated with making decisions that concern entering a foreign market and also development of activity, and thereby searching for information about achieved results of activity and effectiveness of solutions applied to influence the market.

Figure 1 is a graphic illustration of the model of marketing research in multicultural space. Solving the emic-etic dilemma and checking the scope of equivalence of the research object, measurement, research sample and equivalence of the process of direct research is included in the proposed model of marketing research at the stage of research planning. Considering multitude of culture dimensions and cultural circles that results in the fact that research projects conducted in intercultural sections are characterised by large complexity, the need to comply with methodological demand of triangulation must be indicated.

The reference should be made here to Norman Denzin's four types of triangulation included in presented model. They are (Flick 2011):

- data triangulation occurring when various, independent sources of data are applied,
- researchers' triangulation associated with introducing into research, many observers, people performing interviews and those interpreting them or controlling research results for the purpose of minimising researchers' preferences,
- triangulation of research methods that consists in combining various research methods and techniques (triangulation within methods and between research methods),
- theory triangulation that allows for interpreting a particular group of data with the use of many theoretical perspectives.

Fig. 1: Model of marketing research in multicultural space



Source: Own case study

Each of the aforementioned types of triangulation finds application in studies of consumers' behaviours on international markets. Data triangulation is associated with research of the phenomenon in various moments of time, in different places and with participation of different respondents. This type of triangulation allows for achievement of benefits thanks to application of the same research methods. Application of triangulation of researchers demands determination of members and optimal size of research team. It must be indicated here that acting in intercultural space demands both from the people conducting research and from the users of results of marketing research high level of cultural sensitivity and intelligence. It is based on the ability to notice, in the behaviour of both an individual and a group of people, qualities typical of them that differ them from other people or groups and also ability to notice universal features, typical of all the people and social groups. It must be emphasised that even though triangulation may be applied with the use of various methods typical only of one research approach, formation of knowledge on several levels demands combining, at the stage of research implementation, methods belonging to various methodology approaches. Aiming at achievement of benefits typical of both positivist and interpretation trend is the reason for application of this solution. This requires from researchers to have the knowledge and skills required for various methodology trends and

awareness of limitations of each of these methodologies (Teddlie and Tashakkori 2009; Chlipała 2013).

It must be emphasised that the quality of research conducted in compliance with presented model depends on the level of cultural competences of researchers that include three elements (see more in: Johnson et al. 2006):

- general and specific knowledge about culture, including fractographic, conceptual and attributive knowledge,
- skills in the sphere of verbal and non-verbal communication, ability to learn, ability to adapt to new cultural conditions, stress-management skills, negotiation skills or skill of self-preservation.
- adequate personality features, i.e. emotional stability, extroversion, openness, ability to cooperate and conscientiousness.

Cultural sensitivity and intelligence as well as cultural competences associated with them are very important because of substantive issues that concern taking into consideration cultural conditions on individual stages of research process. They determine making appropriate decisions related to research tools, selection of research sample and also research methods and techniques or applied types of analysis of results. Cultural competences are also important because of communicative aspect of research and shaping the relationships between the person conducting the interview and the respondent.

CONCLUSIONS

The importance of intercultural management based on the knowledge about cultural differences between countries and considering them while planning and implementing strategies is growing in conditions of internationalisation of business and expansion into new markets. Acquiring knowledge about the culture of business partner country is a long-lasting process because qualities of culture of the greatest importance for business relationships lie in deep layers and are expressed in culture elements that are difficult to notice and demand thorough analysis.

For successful cooperation with representatives of other cultures, knowing their language, clothing style, artistic and architectural output is not enough because they only reflect the level of superficial culture and constitute just the starting point for further analyses. In intercultural analyses knowledge about the structure of values of a particular group, the role of tradition, religion and customs that affect cultural orientations, and also applied symbolism and patterns of behaviour in various situations are important. Consequently, this leads to

many challenges faced by people conducting marketing research in multicultural environment.

Summing up it must be emphasised that cultural determinants are revealed and must be considered at every stage of research process. However, solving emic-etic dilemma is the starting point. It is often related to application, in marketing research, of triangulation that may consist in application, at the stage of research implementation, of the methods belonging to emic approach that enables identification of determinants of consumer behaviours that are specific for particular cultures, and in the case of recognition of considerable cultural proximity, research methods and procedures compliant with etic perspective.

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The Cooperative Paradigm of Development - Towards Values

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Abstract: The aim of this article is to present the cooperative activity as a paradigm of development that preserves fundamental human values - freedom and happiness. Moreover, the article indicates the compatibility of the cooperative movement with the concept of social responsibility of business and sustainable development.The article is theoretical in nature. A literature review was carried out in order to reproduce a set of valid values. What is more, a projection test of cooperative model development paradigm was conducted. The main problem of the modern world is posed by the increasing level of socio-economic inequalities. Modern capitalism compels citizens and consumers and eliminates smaller producers. Hence the need to return to the values that are ignored by today's paradigmin force.For nearly two centuries the cooperative movement has been showing that the cooperative development paradigm works. Cooperatives are a material base to preserve value. These are the values that are universal, because they constitute the basis for joint action. Cooperative democracy, by giving each member one vote equally, preserves respect for human, his values and goals. It also provides the opportunity to influence their own lives. The respect for private property at market regulation allows the accumulation of human, financial and material resources. The locality and the stability of these resources provides opportunities to deepen relationships and strengthen social capital and civil society. However created law and the prevailing corporate governance contribute in many cases to unethical and pathological behavior even in cooperatives.

Keywords: paradigm, cooperative action, cooperativeness, values, democracy

JEL Classification codes: P13

INTRODUCTION

A paradigm of any discipline of science is an unappreciated, yet very important element. It is a generally recognized scientific achievement that provides specific model solutions in a given time frame, for a specific group of scientists engaged in a particular science (Czaja & Becla 2011). In economics, the paradigm which is understood as a pattern of perception of the economic and social problems changes alongside with the transitions going on in the world. When the emerging phenomena and processes cannot be explained by existing theories, such scientific achievements become inadequate or totally useless. On the ground of scientific revolutions theories, those phenomena are anomalies that cannot be explained by known methods of research (Khun 1968). In the concept of research programs of I. Lakatos, these results challenge the auxiliary hypotheses and can trigger a scientific revolution - a

paradigm change. They may require a replacement of one theory over the other with the help of experience (Lakatos 1995).

The development of science is done, regardless of the adopted concept, along with the changes in the social, economic and natural realities. The pursuit of truth, which characterizes us people, is its driving force. It is then reflected through the implementation of the functions of science into specific human undertakings.

If the purpose of the scientific inquiry is to establish verifiable truths about the world, then in this process it is, in the name of truth, invaluable to oppose fashion, moods, founders. This was the ability to resist that brought success to Copernicus or Einstein. Opposition to the captivating living conditions brought success to The Rochdale Society of Equitable Pioneers and Hrubieszów Agricultural Society of Stanisław Staszic in Poland. Also today, this kind of success is achieved by many co-operatives in various industries. The cooperative activity in the development seems to be a paradigm corresponding to anomalies of feudalism at first, then that of industrial capitalism, and today it corresponds to anomalies of political or financial capitalism. Cooperative actions have been characterizing humanity for a very long time. A cooperator is not only a *homo oeconomicus*. The idea of cooperative action connects the activities of people with different beliefs, working people, people of culture, clergy and politicians. In difficult times, and the second decade of the twenty-first century is a difficult time, a "return" to the value can be commonly observed. Noticing what for us, humans, is the most important in terms of objectives, strategies to achieve them, standards governing the behavior of individuals and teams. But also in the sense of emotional values - symbols, customs, traditions. Today, many people already see that there is no equal sign between the market economy and capitalism. As well as the fact that it is not enough to describe reality without evaluating phenomena and socio - economic processes.

The aim of the article is to present the cooperative movement as a paradigm of development that preserves fundamental human values - freedom and happiness. What is more, the article intends to indicate the compliance and fitting in of the cooperative movement in the concept of corporate social responsibility and sustainable development. The article is theoretical in nature. It is an overview of the literature and an attempt at mapping a model of cooperative development paradigm while preserving the values directed at the civil society.

1 LITERATURE REVIEW

Economics does not assume that people aspire only to welfare. Economics as a branch of a more general theory of human action - praxeology - deals with all human action, a deliberate

attempt to achieve human goals, regardless of what they are. It makes no sense to use the terms "rational" or "irrational" in relation to the objectives chosen by man (Mises 2011). We are aware of the shortages of market mechanisms in the resolution of an efficient allocation of public goods resources and external effects. We recognize the limits of economic growth and the disturbing social phenomena occurring on a global scale. We observe anomalies of socio-economic development. The trickle-down theory did not prove itself (Holt & Greenwood 2012). And today, at the end of the second decade of the twenty-first century, we observe a level of social inequality that is similar to that from the nineteenth century, or even earlier (Łańcucki 2015). The key problems of modern democracy are: optimal allocation of resources, freedom of consumer choices and the protection of private property. They must be verified, if humanity wants to get on the road of sustainable development, prosperity and freedom (Hoppe 2015). From its conception, the cooperative movement covers the above-mentioned goals, i.e. the optimal allocation of resources, the freedom of consumer choice and the protection of private property. Co-operatives, as associations of people running their businesses together and basing them on own resources, achieve the goals of its members. Undoubtedly, decent work and living in a safe social and natural environment is one of such goals.

Members want to have cooperative enterprises because the market forces would act against them if the control of the market was exercised exclusively by capitalist companies. Through cooperative enterprises, members can correct market failures and create organizations better from a social point of view (Nilsson 1992). The cooperative entrepreneurship itself is rarely noticed by the researchers of social aspects of management, and yet it is still an important element of sustainable development (Stryjan 2014).

1.1 Positive economics and values

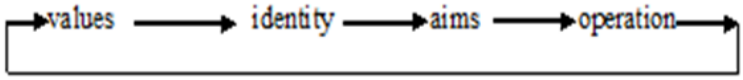
Economics is the science of management, i.e. the use of limited resources in a way that provides optimal effect in given conditions. The optimal allocation of resources in the economy takes into account the rareness of resources and goods (resulting from the usage of resources to produce them). Economics knows the law of diminishing and increasing marginal costs and marginal returns. These are the methods of conducting business that no longer reckon with this law. These are the management uplifting the economic effects and the corporate governance in today's world that do not reckon with the optimal allocation of resources. Hence arose the theoretical concepts emphasizing the social aspects of business - CSR and sustainable development.

Assuming that the autotelic values are the basis for our behavior and we act according to the principle - do unto others as you would have done unto you - as consumers, entrepreneurs and citizens, we behave responsibly on the local level and indirectly, on the global level. This behavior is implicitly assumed by the micro- and macroeconomic theories. The philosopher Adam Smith, by his economic concept of *homo economicus* (greed, sloth, being prone to fraud) drove a wedge between economies, business and ethics. However, his economic concept of the *invisible hand of the market* "rubs" those egoisms and forces integrity in the long run. So why the development limits and the ethical, moral aspects of business make up a new paradigm today.

Sedlácek (2012) rightly argues that economicsin its today's form is a cultural phenomenon, a product of our civilization. Economists avoid normative ratings and reviews suggest that there is something good and something bad.In real life economics is not a positive science. If it was, we would not have to apply for it. Incidentally, not valuing is itself a value, and it is a great value in economics. Paradoxically, the field that deals with the study of values, wants to be non-evaluative. A further paradox lies in the fact that the field believing in the invisible hand of the market is afraid of the contact with metaphysics.

Maybe that is why more and more often we talk and hear about values: we notice their absence in our lives, in the practice of our actions. Sociology talks about mutual cultural codes' and behaviour relation (rules). If we recognize the fact that the value follows an activity (Wittgenstein 2004) as obvious, the basic cooperative values can be considered as a kind of moral code that affects the cooperative practice and it itself remains under this practice's influence (Fig. 1).

Fig. 1: Values in the operation of co-operatives



Source: Ilmonen 1992, p. 34.

Between values and action, a difference can become noticeable when values begin to be interpreted in a new way, or when the operational guidelines become completely new. The moral basis of capitalism had its origins in the ancient Hellenic ideals and in Christian ethics. The ideas of the bourgeois revolution closed in the slogan of the French Revolution: Liberty, Equality, and Fraternity were also important. And although it was sought to give them equal status, in practice it was not easy against the fundamental contradiction of these words. Freedom has a different logic than equality or fraternity. “This last did not fit the ethics of the bourgeoisie. The developing capitalism based its ethics on codes of freedom and equality.

This gave moral justification for the existence of product and labor markets based on free trade, the principles of individual property and utilitarianism. Some entirely new types of social relations aimed at depreciating the role of community and family were introduced. While community and family are based on the idea of brotherhood, they are an expression of the principle called solidarity" (Ilmonen 1992).

1.2 Cooperative values

The cooperative movement appealed especially to fraternity. The cooperative movement is based on solidarity, and at the same time it creates solidarity. The main organizational principles of cooperatives put great emphasis on equality between its members and democracy in the way of formal decision-making. The Pioneers of Rochdale (1844) formulated the principles in a manner so clear that there was no need to radically change them. Democratic governance, dividend, limited interest rates of capital, open membership - this is the reflection of the most basic cooperative moral codes. The cooperative principles adopted at the congresses of the International Co-operative Alliance in 1937, 1966 and 1995 constitute a kind of joint international agreement on standards defining the nature of cooperative organizations and their conduct. Those principles can be regarded as a synthesis of the fundamental cooperative values.

The resolution, which is applicable to present times, adopted by the cooperators in 1995 in Manchester, accepts the following seven cooperative principles: voluntary and open membership, democratic member control, economic participation of members, autonomy and independence, education, training and information, intercooperative collaboration, care for the local community (http://ica.coop).

In the formulation of the first principle, it was clearly stated that gender, race, social status, religion and political views in any case cannot be a reason for discrimination against membership. In the principle of cooperative democracy, the management of the cooperatives by the members, who actively shape the policy of the cooperative and participate in decision-making, was highlighted. Cooperators elected to perform functions are responsible to the entirety of members. Members of the entry-level cooperatives have equal rights - one man - one vote. In the cooperatives of different levels and cooperatives of legal persons, the principle of democratic governance is also preserved. Members contribute equitably to the capital of their cooperative and control it democratically. At least part of that capital is usually the common property of the cooperative. The principle of members' shares, the contribution of which is a condition of membership and with this codification kept low interest rates.

However, it was clearly indicated that these shares constitute assets of the cooperative which governed democratically by the members. The resulting surplus of the balance sheet is spent on the undivided part dedicated to the development of the company (reserve fund) and the division between the members according to the turnover with the cooperative and to finance other important activities for members. The principle of autonomy, independence and self-government is a new element, though the cooperative's self-governance is self-evident as it results from the cooperative's democracy. A clear record of this rule was aimed at stressing the fact that cooperatives are self-governed, self-helping organizations managed by members and even the acquisition of external funding sources (government or non-government) can not impair the independence and membership control. The principle of education, training and information is very important in the conditions of rapid technological development and competitive race. Its implementation allows for professional development of members and the training of elected executives. The principle of information serves to promote the cooperative movement, especially among young people, as a form of participation in social and economic life. The principle of inter-cooperational collaboration indicates the need to strengthen the cooperative movement by sharing experience, knowledge and collaboration on local, regional, national and international levels. The final Manchester principle is also related to this rule - concern for the local communities. Cooperatives, contributing to the local communities, should also avoid excessive concentration of activity and focusing on the internal affairs of the cooperative. For regional development, it is important to maintain local economic ties and building social capital.

In the Declaration of Cooperative Identity adopted by the ICA in 1995, it was assumed that co-operatives base their activities on the values of self-help, self-responsibility, democracy, equality, justice and solidarity. According to the tradition of the founders of the cooperative movement, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others. Being open to all, originally written down as religious and political neutrality, is the fundamental value in the co-operative movement. The openness, regardless of gender, race, social status, is now accentuated.

The rule allowing for self-governance and independence is financial independence. Pioneers of Rochdale, before they achieved success, analyzed the failure of earlier emerging and declining cooperatives. They draw conclusions and knew that you can not count on philanthropists and benefactors. Their ideas became real because they understood that they must rely on own capital, resulting from the merger of small shares, and that they must place achievable goals. The principle of self-governance, introduced at the Congress of the ICA in

1995 refers to this experience. The principle proclaimed that the external financing shall not impair the independence of cooperatives and supervision. The experiences of the cooperators from the period of the socialist economy, as well as the experience of those functioning in social cooperatives were decisive for the emergence of this statement.

2 THE COOPERATIVE DEVELOPMENT PARADIGM

Cooperatives are associations of people who combine their capital and create businesses. They manage them democratically and meet the goals of the members. Almost two-centuries of the history of cooperative movement shows that it is possible to speak of the cooperative paradigm of development. It is based on private property and market allocation of resources, democracy of governance, openness and tolerance, not the profit but the utility maximization. An important component of the cooperative model of development is the close connection with the region. Locality attaches members, their goals and capital to their place on Earth. There is no speculation and no pursuit of profit elsewhere. Co-operatives, as associations of people running shared companies that are based on their own resources, meet the goals of their members. Undoubtedly, one of such goals is decent work and living in a safe environment, both social and natural.

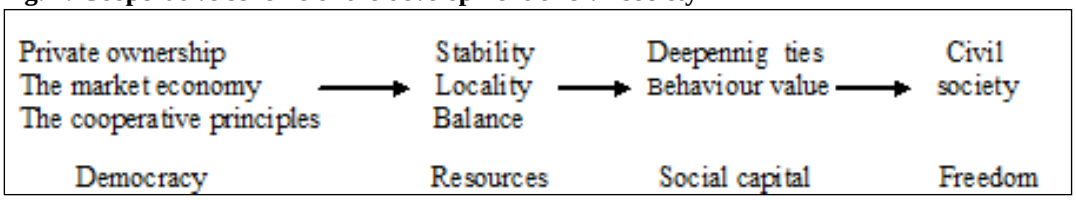
Social responsibility is by a principle built into the system of cooperative action. It is the cause for which the cooperative organizations were and are established as groups of people who want to participate in shaping the conditions of their own lives and influence the social and economic conditions of the whole society. Social responsibility is a fundamental element constituting the content of the cooperative movement in the reasons, objectives and relations between the members and association, and also in the relationship between the cooperative and the society as a whole. Cooperatives are not charities, but organizations consciously established to give people the opportunity to shape the conditions of their own lives (Böök 1992).

Of the seven cooperative principles, the ones that constitute the core of cooperative development paradigm are: cooperative principle of democracy, economic participation of members, independence and autonomy. The cooperative principles are directed toward the realization of two ethical values: freedom and happiness. Edward Abramowski wrote: "Democracy and freedom are created only then, when people, instead of demanding reforms from the state, carry out these reforms themselves by the power of voluntary solidarity, when, instead of a man as the voice of the election, instead of a pawn in the hands of the bureaucracy or party leaders, instead the one who can only either dominate or listen, appears a

man as a free creator of life, able to act in solidarity with others without coercion and improve life" (Abramowski 2012). The most famous Polish ideologue of the cooperativeness in cooperatives as democratic firms saw an opportunity to develop creativity of a free life.

Cooperatives are a material base to preserve values. These are the values that are universal, because they constitute the basis for joint action. They are explicitly reflected in cooperative principles. And because it is not only writing, but a daily implementation; the cooperative paradigm of development performs a construction of civil society (Fig. 2). Cooperative democracy, by giving each member one vote equally, preserves respect for human, his values and goals. It also provides the opportunity to influence their own lives. The respect for private property at market regulation allows the accumulation of human, financial and material resources. The stability of these resources provides opportunities to deepen the interpersonal relationships and strengthen the social capital.

Fig. 2: Cooperative scheme of the development of civil society



Source: own

Democracy in a cooperative allows being a free man in economic life, the sovereign of one's own life and the co-sovereign of a joint life. Cooperators "Instead of taking ready-made things and conditions that are put by capitalists, philanthropists and the state, teach themselves to be the creators of their own lives as free people. And therein lies the enormous significance of the co-operativeness. It teaches the creative freedom, it creates a real democracy. In this moral transformation of a men - from a slave into a free creator of life - cooperativeness sees its most important task, a deep essence of the democratic culture it propagates" (Abramowski 2012).

Abramowski`s ideas have been put into practice in the Cooperative of the Disabled "Świt" (Dawn) in Warsaw. When describing the history of the cooperative "Świt“ it is possible to see a universal property of the cooperative movement. As in the case of most cooperatives, "Świt" was established in order to achieve the objectives of a group of people with a good will to cooperate, aware of its benefits and open towards others. A group of fifteen people, including war veterans, created the Cooperative "Świt" on October 15, 1944. The creation of the "Świt" cooperative was therefore not an act of the communist authorities, but resulted from the needs of cooperative members and the needs of the local community. Polish population has been

deprived of basic necessities such as soap and toothpaste. For over 70 years Cooperative "Świt" has been a manufacturer of household chemicals and cosmetics for face and body, which are appreciated by consumers. In April 2016 "Świt" has purchased the Colgate-Palmolive production plant in Halinów near Warsaw.

CONCLUSION

Many authors point to the advantages of democracy in enterprises, in the workplace. Democracy offers benefits related to the knowledge management and efficiency. Strong hierarchical structures disrupt the flow of information in a company, and the democratic structures facilitate it because they are open to suggestions from various parties and the information in them is not distorted or concealed out of fear or a desire to please the superiors. Ethically, democracy is superior to authoritarianism, since it better maximizes freedom and happiness. In democracy, more people are treated subjectively - as decision subjects - and not objectively - as objects of decision. The control one has over his or her own life is an important factor for achieving happiness (Polowczyk 2014).

Cooperatives provide benefits to members. The cooperative form of managing gives ordinary people the opportunity to be (through participation and responsibility), the "citizens" not only in the political, but also in the economic sense. By following the principles of fair competition, cooperatives disseminate good manners among all market partners. Cooperatives contribute to shaping a better society. Among the objectives of a cooperative, there are always (in greater or lesser extent) social elements. If the goals were purely economic, it would be preferable to lead the organization as a capitalist enterprise.

If the basic macroeconomic target, therefore a socio-economic development objective, is to provide goods and services that society wants, it is important for the economy is to produce an abundance of shelter, food, education and recreation for the society. Positive economics usually analyzes the following variables: production, employment and unemployment and stable prices. Today, the normative economics rightly adds aiming to reduce social inequalities to these purposes. It has been observed generally that in difficult times, the interest in moral and other values increases. Modern technology allows us to produce an abundance of food and shelter, even in an undamaged environment. However, not everyone has access to it. The growing economic and social inequality is becoming the basic problem of the contemporary world. This justifies the normative economics approach to this problem. And at the same time it is the basis for an alert on values and mutual respect among people. Such an alert was reported by cooperators two centuries ago.

Cooperative development paradigm becomes a pattern in such a case. Free-market capitalism made a full circle and social inequalities in the twenty-first century have become the same as in the nineteenth century. Although the industrial capitalism has been replaced by political capitalism and the reign of the elites, the basic problems of the modern world still remain unresolved.

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Measurement of Economic, Social and Environmental Efficiency of BRICS Countries Using Data Envelopment Analysis Technique

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Abstract: The 20th century witnessed the highest growth, ever has taken place in the world economy. On account of high growth registered by Brazil, Russia, India, China and South Africa (known as BRICS countries) in recent years, these countries have been able to close the gap with the developed world significantly. These countries based on their better economic performance have been able to lift a large section of their population above the poverty line and also improve their standard of living. Comprising nearly half of the world's population, BRICS countries however are facing several challenges in their quest for faster growth which has made the present growth process of these countries unsustainable. Our endeavour in the present research is to measure economic, social and environmental efficiency of BRICS countries using Data Envelopment Analysis (DEA) Technique. The result shows highest economic efficiency by Brazil and least by India. On environmental aspect, India is most efficient while China is found to be the least efficient country. On social front, again Brazil has shown the maximum efficiency while China displayed the least. Thus, the present study would provide meaningful insights to the growth model of BRICS countries; create awareness about the judicious use of resources and help the policy makers in drafting comprehensive policies with lasting impact on the economy, society and environment.

Keywords: BRICS, sustainable development, DEA

JEL Classification codes: C6, F0, I15, O15, O32, O57, Q5

INTRODUCTION

Economic growth has undoubtedly raised the income and purchasing power of millions and lifted many out of poverty. The model based on exploitation of natural resources to increase the economy's income and per capita income ignoring social welfare received the attention of many economist and socialist (Dasgupta 2013, Vandemoortele et al. 2013). As a result, numbers of measures were taken to measure inequalities, poverty, illness and unemployment. In 1912, the Gini coefficient was introduced to measure inequality in income and wealth distribution of the residents of a nation. Similarly, life expectancy at birth was developed to measure the overall health of the nation. The concept of human development index (HDI) established by United Nations Development Programme combined the standard of living with the educational and health parameters. However, these indicators ignored the work of Thomas Malthus (1798) – an essay on the Principle of population, Meadows et al. (1972) – The limits

to growth, which highlighted the emergence of protection of environment. Both the theories emphasized on the inefficient utilization of the limited resources to fulfill the unlimited and exponentially increasing demand of the people which may lead to a poor, crowded, hungry and polluted planet. Therefore, if people continue to liquidate the earth's natural assets to fuel their consumption – the planet earth would soon collapse (Camioto 2015; Santana et al. 2014).

The apprehensions on the unsustainable model of progress came to end at the UN Conference on the Human Environment at Stockholm in 1972 where the representatives of developed and developing nations came together for the first time to debate humanity's right to a healthy and productive environment. Stockholm conference set the stage for the doctrine of Sustainable Development which takes a holistic view to measure the progress of nation by integrating the economic, social and environmental aspects. It required the developed and developing nations to measure the efficiency of their actions i.e. converting resources to output. In this light, the present study tries to measure the social and environmental implications of economic activities or economic reforms in BRICS countries. This has been realized by using efficiency measurement system (EMS) and data envelopment analysis (DEA) to generate economic, social and environmental efficiency windows for BRICS countries over a period of five years (2009-2013) in order to make comparative analysis and ranking the BRICS countries on the sustainability dimensions.

1 LITERATURE REVIEW

1.1 Sustainable Development: Concept and Definitions

In order to make development more inclusive, equitable and resilient, the concept of sustainable development was put forward to ensure prosperity, equity, safety and viability. The term, 'sustainable development', first appeared in the World Conservation Strategy drafted by the United Nations Environment Program (UNEP) and the International Union for the Conservation of Nature (IUCN) in 1980. As per the Brundtland Report sustainable development means 'the needs of the present generation are fulfilled without compromising the ability of future generations to meet their needs. Earth Summit held in Rio de Janeiro in 1992 succeeded inframing 'sustainable development' as the overarching policy of the 21st century. Sustainable development recognizes following *three* dimensions: (a) *Economic* - an economically sustainable system must be able to produce goods and services on a continuing basis, to maintain manageable levels of government and external debt, and to avoid extreme

sectoral imbalances which damage agricultural or industrial production; (b) *Environmental* - an environmentally sustainable system must maintain a stable resource base, avoiding over-exploitation of renewable resource systems and depleting non-renewable resources only to the extent that investment is made in adequate substitutes. This includes maintenance of biodiversity, atmospheric stability, and other ecosystem functions not ordinarily classedas economic resources; (c) *Social* - a socially sustainable system must achieve distributional equity, adequate provision of social services including health and education, gender equity, and political accountability and participation (CEE 2007, Hauff 2011).

1.2 Indicators of Sustainable Development

Sustainable development can be observed through a set of measurable indicators which are different from the traditional indicators of economic, social, and environmental progress such as rate of unemployment, GDP, quality of air, water etc. The indicators of sustainable development are multi-dimensional and highly inter-connected with all the three dimensions of sustainable development such as: Human Development Index (HDI), Gross National Happiness (GNH), The Happy Planet Index (HPI), Ecological Footprint (EF), Wellbeing Index, Environmental Sustainability Index, and Genuine Progress Indicator. Thus, progress of a nation can be measured using above indicators which brings out the priority areas in achieving sustainable development (CEE 2007, Gautam 2014, Meadows 1998, Parris 2003).

1.3 Economic Trends in BRICS

The rapid rate at which the emerging economies of Brazil, Russia, India, China and South Africa have in recent years been closing the gap with the developed world has been breath-taking. Starting with a little share of over 10 percent in the world gross domestic product (GDP) and less than 4 percent in world trade in 1990, BRICS (with recent inclusion of South Africa to the forum) now constitutes around 30 percent of world GDP and 17 percent of world trade (BRICS report, 2016). This increase in GDP implies that the economic size of BRICS in world GDP has expanded around 150 percent and the share in the world trade has improved significantly from around 3.6 percent to over 15 percent in last two decades. (Holly & Bell 2011, Singh et al. 2014, Wilson & Purushothaman 2003). However, the success and milestones achieved by BRICS countries have been criticised on their growth model based on intensive extraction of natural resources (e.g. fossil and bio-fuels, minerals, etc.) and approach to economic development which seems to be volatile and unsustainable, creating pressure on

environment and increasing inequality (Centre for the Study of Governance Innovation, South Africa). A report of the Commission on Weak States and U.S. National Security recognizes that the threats to security are now coming less from military power and more from the trends that undermine states, such as rapid population growth, poverty, deteriorating environmental support systems, and spreading water shortages (Brown 2009).

1.4 Social and Environmental Trends in BRICS

Though BRICS countries have experienced greater economic prosperity between 1990 and 2010, doubts have been raised as to whether the process of income convergence will continue or not. BRICS countries account for a quarter of the planet's total land surface, nearly half of the world's population and huge amount of natural resources and other sources of energy (BRICS report 2016) which provide momentum to their development process. As a result these countries have been able to lift hundreds of millions from the ranks of poverty by providing them with means of livelihood. However, the growth process has failed to make investment in human resource and to bring about institutional reforms in the area of education, skill development, health and sanitation. The problem of income inequality has been ignored by the policy makers as a result a wide gap between rich and poor exist in the BRICS countries. Thus, with respect to social performance index, human development index, and gender parity index; BRICS countries have a long road ahead to provide the growth benefits down to its citizens in order to increase life expectancy and quality of life (Mujica). According to World Bank data (2010), the energy consumption of BRCS countries has been recorded higher than G7 countries (Camioto et al. 2015).The frenetic pace of development has also caused unprecedented changes to the biodiversity and ecosystems of these nations (Wu 2011). The continued use of fossil fuels has led to the concentration of Greenhouse Gasses (GHGS), especially carbon dioxide (CO2) in the atmosphere leading to global warming (Ahmad et al. 2016, Camioto et al. 2015). However, very few studies or literature are available analyzing the BRICS countries on sustainability dimension using DEA.

2 RESEARCH OBJECTIVES

The main objective of this work is to measure and compare the efficiency of the BRICS countries in transforming their productive resources (physical and human) and technological innovations into sustainable development. This has been done by examining the three major aspects of sustainable development i.e. economic, social and environmental for the period 2009 – 2013.

3 METHODOLOGY

The economic, environment and social dimensions of sustainability have been analysed using three DEA applications, each referring to one dimension. To perform this DEA processing step, EMS has been used in the three sub-divided window applications which gives super efficiency scores of input-output variables used. In order to determine the input variables, production function has been used. Thus, to represent the capital variable, 'Gross Fixed Capital Formation as a percentage of GDP' has been used; the variable 'percentage of employed population to total population' represents the work variable and to represent the countries' technological innovation, 'R&D spending as a percentage of GDP' has been used (Rebelatto & Rocha 2015; Santana et al. 2014). For determining the output variables to represent each sustainability dimension, per capita real Gross domestic product (GDP) has been taken in the economic window as an indicator to represent the economic growth of nation (Santana et al. 2014; Camioto et al. 2015); per capita CO_2 emission has been taken in the environment window to reflect the pollution and environment degradation out of economic growth in these economies (Ahmad et al. 2016; Khan 2016, Song et al. 2013). Carbon emission has been analysed in the light of an undesirable output which need to be reduced in order to improve the countries' performance. For this, the reciprocal of the variable CO_2 has been taken. Life expectancy at birth has been taken as the third output variable in the social window. It is referred as a decisive indicator to measure quality of life and the development of an economy and its people (Camioto et al. 2015; Santana et al. 2014). The above discussed variables are validated using multiple regression and correlation analysis to identify the relationship among variables referring to social, economic and environmental dimensions of sustainable development. The variables can be summarized in table 1 presented below:

Tab. 1: Variables used

Application	Type of efficiency	Input	Output
1	Economic	Gross fixed capital formation (% of GDP); employed population (% of total population), and R&D expenditure (% of GDP)	Per capita real GDP
2	Environmental	Gross fixed capital formation (% of GDP) and expenditure on R&D (% of GDP)	Per capita CO_2 emission
3	Social	Gross fixed capital formation (% of GDP); employed population (% of total population) and R&D expenditure (% of GDP)	Life expectancy at birth

The data of five years from (2009 to 2013) of BRICS countries has been studied and analysed on the above discussed parameters. Data is collected from various sources such as World Bank database, BRICS reports and other governmental publications.

3.1 DEA model

Data envelopment analysis is a non-parametric test used for measuring the relative efficiency of certain number of producers called decision making units (DMUs) being a set of comparable units; first proposed by Charnes et al. (1978). Each producer has inputs (X) and output (Y). Unlike in a traditional approach, evaluating DMUs' efficiencies relative to their average level, DEA technique considers the position of each DMU compared with that of a given producer. The essence of the problem lies in the assumption that, if the producer A obtains Y(A) units of output using X(A) units of input then, the others should be able to act in the same manner if they are efficiently operating as A. Here, efficiency can be considered as a ratio of outputs to inputs, precisely the ratio between the weighted sum of outputs and weighted sum of inputs. The efficiency score of a DMU lies between value 0 and 1; where, value 1 indicates a relatively efficient DMU and a value less than 1 shows an inefficient DMU. The changes in the efficiency scores depend on the input and output used (Duguleana 2015).

There are three orientation of the model; first is the input – orientation which fixes outputs to compare the relative efficiency of inputs, second one is the output-orientation which fixes inputs to compare the outputs and the third one is input–output orientation. In this study, the DEA model with output-orientation has been chosen to evaluate the relative efficiency of BRICS countries in economic, environmental and social dimensions.

Time–dependent analysis of DEA popularly known as "window analysis" has been used to compare the efficiency of these countries in different time period of 2009-2013 which consider each country at a specific time, as a separate unit. The window analysis is a process similar to the moving average, where each time a new unit enters, another unit exits; commonly the first unit which enters in the previous analysis. Efficiency measurement system (EMS) software has been utilized to compute DEA efficiency measures. The advantage of using this software above others like DEEP is that it measures values even greater than one and gives super efficiency scores in percentage (Kuosmanen 2005, Cai & Hanley 2012, Song et al. 2013, Santana et al. 2014).

4 RESULTS AND DISCUSSION

Window results and average efficiency index of each application i.e. economic, environmental and social have been presented in Tables 2, 3 & 4 respectively. The ranking of each BRICS countries based on average index of each application has been carried out and is presented in Table 5. Data in absolute numbers for the year 2013 with which the relative indices can be linked is presented in Table 6.

Tab. 2: Efficiency result of windows (economic application)

Mean efficiency	Window			Mean Total
	1 (2009-11)	2 (2010-2012)	3 (2011-2013)	
Brazil	98.65%	99.04%	99.55%	99.08%
Russia	92.98%	96.72%	98.55%	96.08%
India	15.51%	15.70%	15.84%	15.68%
China	27.41%	29.65%	31.54%	29.53%
South Africa	96.82%	99.09%	99.86%	98.59%

Tab. 3: Efficiency result of windows (environment application)

Mean efficiency	Window			Mean Total
	1 (2009-11)	2 (2010-2012)	3 (2011-2013)	
Brazil	86.10%	95.55%	93.98%	91.88%
Russia	14.24%	17.22%	17.92%	16.46%
India	97.08%	93.39%	98.06%	96.18%
China	13.98%	14.16%	14.19%	14.11%
South Africa	21.83%	25.77%	27.43%	25.01%

Tab. 4: Efficiency result of windows (social application)

Mean efficiency	Window			Mean Total
	1 (2009-11)	2 (2010-2012)	3 (2011-2013)	
Brazil	98.56%	99.91%	99.79%	99.42%
Russia	90.46%	95.59%	97.55%	94.53%
India	99.93%	96.91%	94.30%	97.05%
China	61.33%	60.69%	59.85%	60.62%
South Africa	96.82%	98.63%	99.64%	98.37%

Tab. 5: Mean efficiency ranking of BRICS, from 2009-2013

Countries	Economic application	Environment application	Social application
Brazil	1st	2nd	1st
Russia	3rd	4th	4th
India	5th	1st	3rd
China	4th	5th	5th
South Africa	2nd	3rd	2nd

Tab. 6: Input and Output data for the year 2013

Countries	Gross fixed capital formation (% of GDP)[1]	Employed population (% of total population)[2]	R&D Expenditure (% of GDP) [3]	Per capita Gross domestic product [4]	Per capita CO_2 emissions [5]	Life expectancy at birth[6]
Brazil	20.9	47.7	1.2	11797.4	2.5	74.1
Russia	20.2	49.8	1.1	11615.7	12.5	70.4
India	31.6	39.8	0.9	1555	1.6	67.7
China	45.5	56.6	2	5721.7	7.6	75.6
South Africa	20.3	25.5	0.8	7623.1	8.9	56.7

Source: RBI Database, BRICS Report 2015, Pocket book of Agriculture statistics, Planning commission.

Note: [1] Gross fixed capital formation as % of GDP, [2] % of employed population to total population, [3] R&D expenditure as % of GDP, [4] Per capita GDP at market prices (constant 2010 US billion$), [5] Per capita CO_2 emissions (metric tons), [6] Life expectancy at birth, total (years).

Brazil: A look at Table 6 shows that in the year 2013, Brazil maintained low levels of fixed capital, labour, and technological innovation but had highest per capita GDP among BRICS countries; which resulted this country to be the most efficient in the economic window, with an average efficiency of 99.08 percent (Table 2). On social efficiency front too, Brazil stand 1st in the BRICS group with an efficiency level of 99.42 percent (Table 3). This is because, despite having median inputs, the country had the second highest life expectancy of the group, of around 74.1 years which is increasing over the period of 5 study years. Per capita CO_2 emission of the country was also low, which increased its environmental efficiency to 91.88 percent; making Brazil to be the second highest most efficient country in the environmental sphere.

Russia in terms of input and output levels, falls in the median level category in the group but on the environmental efficiency front, Russia has an average efficiency ratio of just 16.46 percent and is ranked at 4th place. Similarly, in the social category, Russia's average efficiency index is 94.53 percent with an average age of 70.4 years taking it to rank 4. However, economic efficiency results shows that Russia is improving in its economic sphere with an average efficiency of 96.08 percent and is accordingly ranked 3rd in BRICS countries.

India is the second ranked country in terms of fixed capital but remain poor in employed population and technological innovations. This makes the country to perform worst in the economic efficiency window with an average score of 15.68 percent and low levels of per capita GDP. The social efficiency score of the country also represents dismal picture with an average age of 67.7 years standing at 3rd position. However, India proofs itself on environmental window standing at first position with least per capita CO_2 emission and an average efficiency ratio of 96.18 percent; highest in the BRICS group.

China: China had largest fixed capital; number of people employed and did spent highest percentage of expenditure on R&D (Table 6). However, it did not resulted in production of largest GDP among the BRICS countries. It lags behind Brazil, Russia and South Africa and is ranked fourth with average efficiency level of just 29.53 percent. Despite having low per capita CO_2 emission as compared to Russia and South Africa among BRICS countries, China is seen as the least efficient in the environment application with an average of just 14.11 percent efficiency. Despite highest input and output values on social front, China's average social efficiency score is only 60.62 percent and stands at the bottom of social rankings of BRICS countries. Further the window results shows the social efficiency score to be declining (Table 4), which in fact poses a threat to China's ambition of being an economic superpower.

South Africa is undoubtedly the BRICS country that has the lowest level of inputs and outputs. South Africa's average economic efficiency is found to be 98.59 percent with reasonable levels of per capita GDP leading the country to 2nd position. Though economic efficiency score is very high but due to its low level of inputs and high per capita CO_2 emission, South Africa stands 3rdon the environmental front. In terms of social efficiency, the country stands at 2nd position even with a lowest life expectancy of 56.7 years.

5 CONCLUSIONS AND POLICY IMPLICATIONS

The important findings of the study are that the Brazil in BRICS group has been able to achieve highest economic and social efficiency along with reasonably good environmental performance. On the other hand, China is least efficient in environment and social performance, which puts a big question mark on the sustainability of its high economic performance. Findings are interesting as far as India is concerned. Though it has shown good performance on environment and social dimensions in BRICS group, its performance on economic parameter is dismal and is ranked least. For Russia, it can be emphasized that despite its economic improvement after the recession of the 1990s, the country is still affected by the vulnerability of its economy. Additionally, it is the largest CO_2 emitter per capita in the BRICS group, and its economy depends on the exploitation of natural resources. Thus, it is suggested that Russia should invest in sustainable technology to jointly solve their environmental and social problems. Finally, South Africa is a country which has improved its per capita GDP despite low levels of inputs and surprisingly stands ahead in both social and environmental efficiency windows.

The objective of this comparative study was to know how efficiently the BRICS countries are transforming their productive resources and technological innovations into sustainable

development in a relative sense and thus had no intention to bring any definitive conclusions. Nevertheless, this work has enabled the construction of an interesting comparison chart between the BRICS countries, and this analysis could be replicated for other group of countries in different situations.

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Corporate Commitment to Diversity in the Local Perspective of the Polish Subsidiary of EDF: A Qualitative Exploratory Study

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Abstract: Diversity is emerging as one of the key pillars of corporate social responsibility. The purpose of this study is to challenge the universal concept of diversity and inclusion by obtaining practical insight into local phenomena. It has become apparent that diversity management does not transcend organizational or national boundaries. The results suggest that diversity practitioners ought to take into consideration the historical, political, and cultural contexts. The empirical findings draw from communication campaigns and in-depth interviews. Finally, few studies have deepened the knowledge of diversity management in Eastern European countries, even if the topic plays an important role in the changing business environment and European integration.

Keywords: diversity, communication, EDF, Poland

JEL Classification codes: M14, M16

INTRODUCTION

The European Commission provides a broad definition of corporate social responsibility (CSR) as "the responsibility of enterprises for their impact on society" (European Commission 2016) that encompasses principles relating to human rights in the business environment. European integration is based upon certain common values, such as freedom, democracy, equality, respect for human rights, and the rule of law (European Parliament 2017). The motto of the European Union is to remain "unified in diversity" (Kraus 2006), while the current macro-institutional debate calls for recognition of the political, economic, and demographic environments, as opposed to the mainstream approach of the European policies.

The mergers and acquisitions of formerly state-owned Polish companies, followed by UE entry in 2004, have contributed to the emergence of diversity management, which plays an important role in the changing business environment and European integration. The implementation of global strategies, policies, and management practices has become subject to analysis of the social environments.

According to the demographic projections of the World Bank, a population decline is expected to occur in Eastern Europe. As a result of a rise in the elderly population, there is an

increasing need to deal with multiple economic and social challenges (World Bank: Central Europe and the Baltics 2015), such as active aging, productivity, innovation, and adaptability to the workforce of the future. Those challenges are not only associated with socioeconomic transformations but particularly with the simultaneous transformation of the workforce within organizations (Emmot & Worman 2008). In addition, with the recent tendency to shift from democratization (Metcalfe & Woodhams 2008) toward protectionism or even nationalism, international companies may call into question the future of the diverse workforce. The shortage of a qualified workforce caused by emigration (Halik et al. 2009) enhances multinationals' need to make a vigorous effort to attract and retain talented people from around the world. Of equal if not greater importance is that organizations value multicultural teams for their contribution to the overall organizational effectiveness and innovation (Bellard & Rüling 2001; Cox & Blake 1991), which are essential to gain techno-economic competitive advantage. Finally, rapidly evolving business environments have given rise to client-centered approaches and business models. Diversity and inclusion policies tend to set the direction to meet the needs of diverse clients within both the international and local communities. All these phenomena have contributed to the transfer of "Western" diversity management policies and practices (Laurent 1983) to post-socialist economies in transition, as what is called the "one best way" (Hurt & Hurt 2005).

This paper is an attempt to gain a deeper understanding of the adoption of a corporate diversity commitment by the Polish subsidiary of the EDF Group. The aim was to reveal the meso (organizational) and micro (individual) levels of interpretation so as to propose a more realistic and contextual framework of diversity management. The study is based on our experience in the diversity department at the EDF headquarters in Paris. As a more practical benefit of the research, we consider a better understanding of the peculiarities of a Polish approach to the effective communication on diversity and inclusion.

1 LITERATURE REVIEW

1.1 The origins of the concept of diversity management

The concept of diversity management first appeared in the United States and dates back to 1990 (Sanders & Belghiti-Malhut 2011). After the Civil Rights movement in the 1960s, equal employment opportunity legislation was established in the United States as a response to a long history of slavery and discrimination against ethnic minorities, and affirmative action policies (Lorbiecki & Jack 2000) have also been widely adopted in Anglo-Saxon countries

(Kelly & Dobbin 1998). For example, in France, diversity policies draw from both national and European legislation from 2004 and therefore were incorporated by public bodies and large companies. The concept of managing a diverse workforce was adopted in Poland much later than in the US, mainly through foreign investments and European legislation. However, a recent review of the literature does not provide a precise timeline for its emergence in business environment.

1.2 Diversity management from the local perspective

It seems that the focus of interest for contemporary approaches on diversity management lies in measuring the positive effects of diversity (Cox & Blake 1991; Gruman et al. 2007) rather than discussing its outcome. In fact, recent years have witnessed tremendous interest in a debate on the "return on investment" for diversity, in terms of benefits from its strategy and organizational performance. However, multiple empirical studies propose to challenge the Anglo-Western conceptualizations of diversity management (Chanlat et al. 2013) when transposed into different countries (e.g., the Czech Republic, Denmark, France, Germany, New Zealand, Australia, England, the United States and the Visegrád Group) (Bellard & Rüling 2011; Boxenbaum 2006; Eger et al. 2012; Eger & Indruchová 2014; Egerova & Jiřincová 2014; Jones et al. 2000; Kamp & Hagedorn-Rasmussen 2004; Kramar 2012; Risberg & Søderberg 2008). Nevertheless, none of the existing empirical case studies are based on Polish data from an international perspective.

Diversity research emphasizes the significance of culturally heterogeneous geographies (e.g. Africa, Asia, and South America) (Özbilgin & Syed 2009). However, some studies propose an original perspective for studying diversity management and yet still focus on homogeneous countries (e.g., Denmark) (Christiansen & Just 2012). Moreover, the authors criticize the specific perspective that categorizes managing diversity as a "narrow capitalistic emphasis" on business cases (Özbilgin & Syed 2009) and advocate for a more context-specific framing of diversity management. Consequently, a multilayered, "situated" analysis seems more authentic and comprehensive.

In one of the empirical studies, Kramar (2012) examined the main characteristics of diversity management in Australian organizations, showing the influence of national-level approaches (legal compliance, national policy, demographics) on the organizational application of diversity management (Kersten 2000; Kramar 2012).

Tatli and colleagues' study (Tatli et al. 2012) of diversity discourses in France, Germany, and the UK, suggests that the reinterpretation of the meaning of diversity is historically

constructed. Pollert (2003) conducted a study on gender, work, and equality opportunities (EO) in post-Communist economies in Eastern Europe. Her study demonstrates the analysis of EO and gender equality in a broader social and economic context, as "the future of EO mainstreaming is endangered in both the 'old' and the 'new' Europe" (Pollert 2003). Giving general panorama of recent literature, we argue that the mainstream research on the Anglo-Western model of diversity management should be contextualized.

2 CASE STUDY

The EDF Group is a global electricity company that covers the sector of nuclear, thermal, and renewable energies, with headquarters located in France (EDF 2017). The company is present in Europe, Asia, and North and South America, with around 32 subsidiaries.

From the first of June 2006, EDF has been engaged in promoting diversity and preventing discrimination across subsidiaries and within its business units. This global diversity ambition has been transcribed into local action plans discussed during regular follow-ups between headquarters and subsidiaries. However, the subsidiaries usually have their own agendas on diversity, and some of them emphasize different aspects. For example, EDF SA has a department called *Diversity, Performance, and Innovation*, dedicated to diversity, gender equality, age, disability management, and quality of life at the workplace. Meanwhile, the commitment to diversity in EDF Poland appears as an integral part of the Ethics/Compliance and Diversity strategy; the values of equality and fairness are more directly considered, with the focus on the cognitive aspects of diversity.

3 DATA COLLECTION AND METHODOLOGY

Interviews, observations, and internal documentation allowed to query the particularities of diversity representation in the Polish subsidiary of the EDF Group, both at the meso (organizational) and micro (individual) level. This investigation provided insight into the challenges that Anglo-Western global companies would encounter when transferring diversity policies to their Eastern subsidiaries. The research was based on the qualitative method.

First, we conducted open-ended interviews, 17 of them on site and two by phone. The interviews were one hour to one and a half hours long, enabling the interviewees to express their ideas openly and spontaneously. In consideration of the open-ended questionnaire with attention given to the new relevant themes, the data was analyzed manually. The information was gathered through participation at collective meetings, informal conversations, and 40 hours' presence in the company.

Tab. 1: Interview list

	On-site interview	**Telephone interview**
Specialists	2 Auditors	
Managers	Quality & Environmental Manager, Communications Manager, Human Resources Manager, Contract Manager, Trainings Manager, Quality Management Specialist, HR Business Partner, Diversity & Compliance Manager	Communication Manager
Directors	Compliance Director, Process & Support Director, Risk Management Director, IT Director, Finance Director, Board Executive Quality & Environmental Director, Corporate Communications Director	Ethics and Social Affairs Director

Source: own results

The second data source involved two visual communication campaigns, which date back to 2015 and 2016. The study was based on an interpretive epistemology (Thietart 2014) and relied on inductive reasoning. We have provided the basis for the contextual interpretation of diversity meaning at the firm level (international versus local definition of diversity) and the individual level.

4 KEY FINDINGS

4.1 Meso level

The first part of the findings draws upon the analysis of two communication campaigns organized during diversity weeks. The purpose of the first global diversity campaign conceived at headquarters was to counter stereotypes related to five dimensions: gender, age, disability, sexual orientation, and religion, and therefore prevent discrimination across the organizations. We found that the Polish subsidiary rejected the visual and textual content of the French version and created its own. The Polish title was "Openness for diversity makes better cooperation at work". However, the Polish version highlighted only three dimensions, age, gender, and disability, while omitting religion and sexual orientation. Considering these insights, we can propose two main hypotheses and attempt to explain why the promotion of diversity in the Polish context does not include religion or sexual orientation. The first hypothesis is that a lack of cultural and organizational compatibility may be embodied in management practices. The second hypothesis is that the organizational diversity adoption in Poland does not fit the global vision of the company. Terms referring to religion or sexual orientation are 'taboo' in Poland and are utilized in relation to discrimination, if that takes place. Furthermore, one of the major concerns expressed by managers was the risk of generating negative feelings and attitudes toward the communications department, such as shock, misunderstanding, and even mockery. A more in-depth understanding of the nature of

the possible attitudes is necessary, especially among millennials and other generations within the organization.

The second Polish campaign, entitled: *Connect with diversity and try new ways of working for better collaborative teams* (own translation), was deployed locally during Diversity Week in 2016. The campaign incorporated visual and textual data focused on behavioral diversity (Hubbard 2004) rather than its representative aspects. The campaign demonstrated the fundamental principles of collaborative work based on respect, listening, self-awareness, capacity to ask for advice, and nonjudgmental attitude. This example reveals that communication practices are related to cultural homogeneity and integrate a more cognitive model of diversity rather than the combination of culturally diverse people.

Last but not least, we have some evidence to support the argument that the Polish subsidiary had the autonomy to develop and display heterogeneous communication content at the national and regional levels. Even though the local management implemented the Diversity and Inclusion framework, they preferred to adjust the corporate message to local conditions and use local practices instead of global best practices.

4.2 Micro level

East versus West

It was interesting to investigate what diversity means for employees at different levels. It was argued that the divergence between the French and Polish approaches to diversity may be embodied in different management practices. Moreover, interviewees referred to diversity as something that reflects the traditional Polish values (family, church, patriotism) as opposed to the heterogeneous workforce that the term denotes in the headquarters and more broadly in the French society. They reaffirmed this difference, which highlighted a gap between "us" and "our way" versus "them" (translated verbatim).

Managerial versus operational-level perspective

It was difficult for interviewees to define what diversity means for them. This translated into hesitations and moments of silence. While managers could easily share their beliefs on diversity, people at the operational and technical level did not know what diversity represents and preferred to discuss other topics.

Also, the Anglo-Saxon term of "inclusion", which advocates for creating a respect-based working environment that enables everyone to thrive at the workplace, seemed irrelevant for both Polish managers and employees. In addition to this, it was claimed by managers that the Polish society at the macro level "is not open to the otherness" (translated verbatim),

especially when it comes to diversity of skin color, religion, and sexual orientation. The idea outlined above is not common and should not be considered generalizable. These responses might reflect reproduced stereotypes about Poland rather than fostering a deep reflection on the subject.

CONCLUSIONS

In this paper, we have sought to challenge the universal discourse on diversity and inclusion. Summarizing the outcomes of the exploratory study and our observations, we argue that the Polish subsidiary of EDF has its own methods of addressing diversity issues and communication practices. This research clearly suggests that inclusion as a part of an international strategy, does not have an equivalent in local organizational reality.

We propose to study diversity management from a contextual and multilevel perspective. The key areas of focus to examine further are the organizational discourse on diversity through internal communication (visual and textual representations) and the perception of diversity in employee perspectives rather than narrowing the scope of the study to diversity and HR managers. Conceptual and empirical research on diversity should benefit from the local prescriptions and practices.

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The Energy Situation of Visegrad Group Countries in Context of Energy Union

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Abstract: The energy union is an European Union project consisting of the integration of national energy markets into one common market and also geared towards restructuring the entire energy system of the EU by means of the construction of energy connections, diversification of the sources of energy and its transmission taking into consideration the objectives of the climate policy. The energy union is a project in response to the gas crisis from 2009 between Russia and Ukraine. The consequences of the Russian-Ukrainian conflict revealed the necessity of definite measures in the context of working out a common standpoint in energy policy issues. This project, however, does not enjoy equal interest among all EU member states. This is the outcome of the national interests of some member states, which, for many years, have had good political and economic relations with the Russian Federation, particularly in the area of energy sources. The project of energy union seems to be the most important for Visegrad Group countries, which are highly depended from Russian gas import and they are the one of the most vulnerable EU countries to possible gas disruptions. This paper is an attempt to find answers to the following research questions: (1) What is the energy situation of selected economies of Visegrad Group?; (2) Is the energy union a chance for increasing their energy security (including gas supply security)?; (3) Will energy union support achieving them other goals of European Union energy policy?

Keywords: energy union, Visegrad Group, energy security, energy, energy policy

JEL Classification codes: Q40, Q37

INTRODUCTION

After the Second World War, for strategic and political reasons, the countries of the Central Europe got under the hegemony of the USSR with which they were closely connected through bilateral and multilateral economic agreements (COMECON) and the military treaty (the Warsaw Pact). The existence of a common historic heritage paired with a centrally planned economy resulted in growing similarities between these countries in spite of the existence of national and ethnic differences (Bukalska & Bocian 2003).

This fact affected also the main directions of the development of the energy sector. The countries of the Central Europe invested in the energy-consuming and high-emission heavy industry, making up a specific energy culture based on the accessibility of inexpensive raw products – hard coal, crude oil and natural gas exported with the preferential prices within the socialist bloc (Fitzmaurice 1998, pp. 21-23). Inexpensive raw products and the treatment of

the final energy as a collective public good, to be provided by the state, did not encourage energy saving, and even fostered its waste. The use of fossil hydrocarbons in energy production resulted in its high emisiveness. An obvious result of this situation, given all its circumstances, was a completely different condition of the energy production within the Visegrad Group countries and in the Old UE-15. Even today, the energy production sector of the Visegrad Group countries can be characterised by a significantly higher energy consumption indicators, lower energy efficiency and still relatively lower investment into research and development sector as well as high CO_2 emissivity. All these factors boil down to the fact that such a heavy historic burden makes the realisation of the EU common energy policy an extremely difficult and costly task. Even today it seems that the specific character of the energy sector within the Visegrad Group is still misunderstood by EU other member states, e.g. Denmark or Sweden with their strong pro-ecological orientation, or France, whose energy production is based on low-emission nuclear energy.

1 LITERATURE REVIEW

The publications on the topic focus on three thematic areas:

1. The countries of the Visegrad Group and their energy-production characteristics within the context of the European Union;
2. European integration with special consideration of the common energy policy and the creation of the Energy Union;
3. Energy Security, continuity of supplies and transfer, energy dialogue between the European Union and Russia

These publications comprise books, statistical reports, EU legislation and source materials.

2 THE ENERGY SITUATION OF THE VISEGRAD GROUP COUNTRIES – SIMILARITIES OR DIFFERENCES?

In 2015, the structure of the primary energy production (energy mix) presented significant differences within the Visegrad Group. Within the group of these four countries, two sub-groups with some similarities could be distinguished; namely: Poland and the Czech Republic, which still base their energy mix mostly on the high-emission hard coal (in 80.2% and 58% respectively), and Slovakia and Hungary, which, in turn, base their energy production, first of all, on nuclear sources: making up 63% primary energy in Slovakia and 40% in Hungary (cf. table 1).

Tab. 1: Primary energy production in the countries of the Visegrad Group, broken down into specific energy sources in 2015 (in %)

Country	Coal	Oil	Natural gas	Nuclear	Renewables
Czech Republic	58	0.5	0.7	27	12.6
Hungary	15.8	5.7	14.5	40.3	20.4
Poland	80.2	1.4	5.6	0	12
Slovakia	9.2	0.1	1.3	64.1	22.8

Source: the author's own work on the basis of Complete Energy balances, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_110a&lang=en, (03.01.2017).

Poland is the only country in this group which does not produce energy from nuclear sources. The similarities concerning the renewable energy sources are analogous. Hungary and Slovakia already have a significant share of the renewable sources in their energy mixes (20.4% and 22.8%). Poland and the Czech Republic are characterised by a relatively low use of renewable sources of energy (12% and 12.65%).

Moreover, there are some other similarities between the countries within the Visegrad Group, in 5 main areas of energy union, concerning the security of supply of raw products, the progress in the adaptation to the internal energy market of the EU, energy efficiency, economy decarbonisation and the expenditure on research and innovations in energy production (cf. table 2):

Tab. 2: Energy situation in Visegrad Group in five areas of energy union in 2015

Country	Energy Security	Internal Energy Market	Energy Efficiency	Decarbonisation	Research and Innovation
Czech Republic	It imports all its gas from Russia. Although gas infrastructure would allow for good diversification of sources and routes, the Czech Republic thereby remains one of the most vulnerable EU countries to possible gas disruptions.	The successful coupling of the day-ahead markets between the Czech Republic, Slovakia, Hungary and Romania has improved price stability in the region. Electricity interconnections capacity in Czech Republic (17% in 2014) is already above the 2020 and 2030 targets.	The Czech Republic is on track to meet its 2020 energy efficiency target, but important energy savings potential remains especially with regard to energy renovation of buildings.	The country is on track to meet its 2020 targets for greenhouse gas emission reductions and renewable energy. The Czech economy however remains highly carbon intensive. The support for renewables has not been stable due to retroactive changes in its support scheme thereby undermining investors' confidence.	The ageing electricity infrastructure (including the generation portfolio) and high network costs require strong efforts towards modernisation and investments.

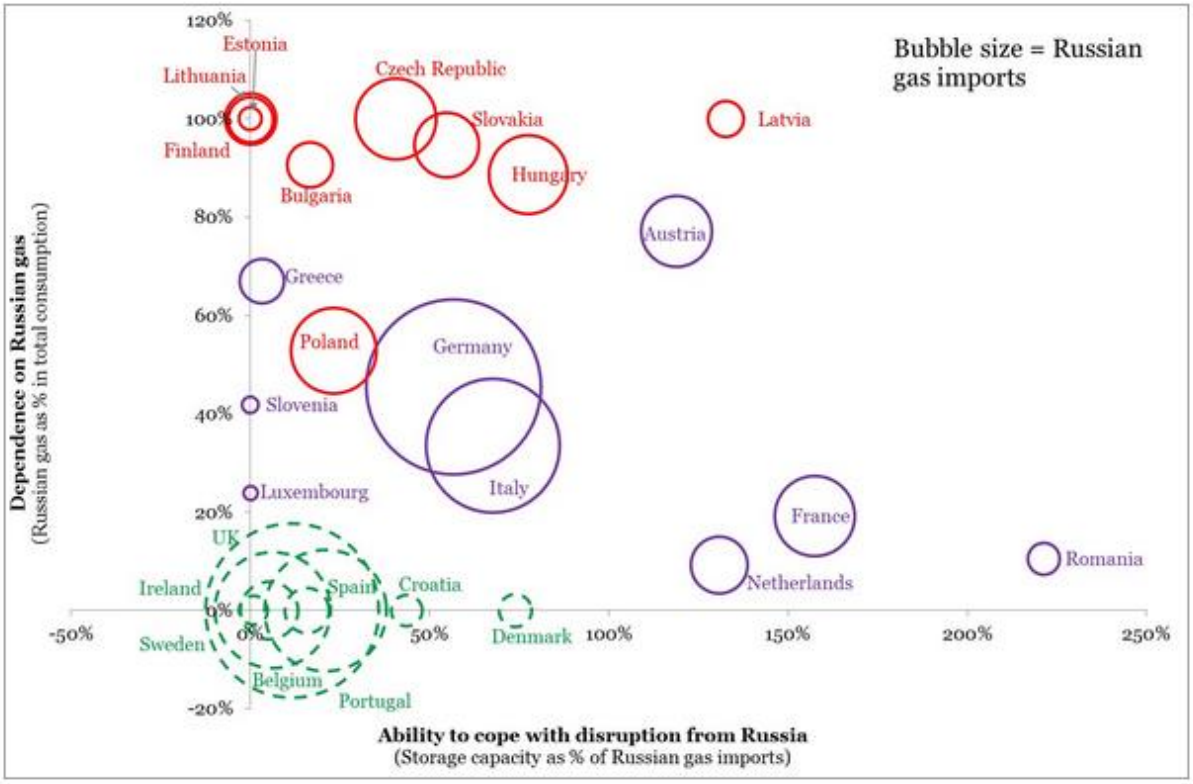
Country	Energy Security	Internal Energy Market	Energy Efficiency	Decarbonisation	Research and Innovation
Hungary	In relation to natural gas, around 80% of the domestic consumption originates from imports, with a single external supplier, making the country vulnerable to supply disruptions	The country is well connected to its neighbours, already fulfilling its 2020 interconnection target. Hungary is participating in wholesale electricity market coupling initiatives providing good liquidity on electricity trading platforms.	Hungary is on track to fulfil its 2020 energy efficiency .It is a difficult task because its economy has higher energy and carbon intensities than the EU average and energy infrastructure modernisation is required	Hungary is on track to fulfil its 2020 non-ETS greenhouse gas emissions and renewable energy targets.In terms of intensity of low-carbon technologies patents, Hungary is lagging behind the EU average and main worldwide partners.	Hungary is above the EU average in terms of public support allocated to research and innovation in the field of energy and environment
Poland	Due to investments in gas infrastructure and offering capacities to the market in line with the 3rd Package, Poland has significantly improved its energy security situation in recent years. However, Poland still imports a high share of its gas consumption from Russia.	The Polish electricity wholesale market has become increasingly competitive with low market concentration. The gas wholesale market, however, remains relatively closed. Competition in the retail electricity and gas markets remains limited with very low switching rates. Poland's electricity market is not sufficiently linked with its neighbouring markets.	As regards Energy efficiency, Poland is on track to meet its EU 2020 target and has made some progress in moderating energy demand, with the exception of transport.	Poland is on track to meet its renewables 2020 target. Poland engaged into a long-term process of reforming its support system for renewables and reducing administrative barriers to market entry for renewables. According to its projections, Poland is also on track to meet its EU 2020 greenhouse gas emission reduction target although some additional measures might be needed.	Despite being above the EU average and the US in terms of public support share allocated to research and innovation in the field of sustainable energy, low-carbon and environment, Poland is in terms of intensity of low-carbon technologies patents much below the EU average and main worldwide partners.

Country	Energy Security	Internal Energy Market	Energy Efficiency	Decarbonisation	Research and Innovation
Slovakia	Slovakia imports all its gas from Russia. Although gas infrastructure would allow for good diversification of sources and routes, Slovakia thereby remains one of the most vulnerable EU countries to possible gas disruptions. The establishment of a reverse flow mechanism with Ukraine was an important milestone for energy security in the region.	The successful coupling of the day-ahead markets between the Czech Republic, Slovakia, Hungary and Romania has improved price stability in the region. Also the interconnection capacity for electricity was of 61% in 2014 for Slovakia, which is well above the 2020 and 2030 objectives.	Slovakia is on track to meet its 2020 energy efficiency target. Primary and final energy consumption has been decreasing in 2005-2013 at a rate which is very close to the EU average. At the same time, Slovakia still has the fifth highest energy intensity of the economy in the EU, with the industry having large potential for improvement.	The country is on track to meet its 2020 targets for greenhouse gas emission reductions and renewable energy.	Slovakia lags behind EU average, Japan and South Korea but is at the same level as the US in terms of public support share allocated to research and innovation in the field of energy and environment. In terms of patents for low-carbon technologies, Slovakia is much behind the EU average and main worldwide partners.

Source: the author's own work on the basis of Benefits of the Energy Union country factsheets https://ec.europa.eu/priorities/publications/benefits-energy-union-country-factsheets_en (10.01.2017).

The analysis of the first area connected with the supply of the energy-producing raw materials shows that a common feature of all the countries within the Visegrad Group is their dependence on one supplier, which, because of the geographical proximity and historic circumstances, is Russia. The share of the Russian gas in the entire imported gas was 99% in the Czech Republic, 89% in Hungary, 55% in Poland and 95% in Slovakia, which shows that these countries are strongly dependent on the import from Russia. Their situation, however, is still not as bad as that of the Baltic countries and Finland, whose import of Russian gas makes up 100% of their gas imports. Therefore their situation is significantly different than in other EU countries, which are less dependent on the supply of the Russian gas (such as France, the Netherlands, Romania), and also than in other countries which do not import Russian gas (cf. fig.1).

Fig. 1: The import of the Russian gas by the countries of the European Union in 2015 (in %)



Source : IEA 2015 Natural Gas Information

Note: Due to lack of information, Malta and Cyprus have been excluded from the figures. These two countries consume little gas and certainly receive no gas from Russia.

The countries of the Visegrad Group are also characterised by a poorly developed gas pipelines infrastructure in the directions other than East-West. In fact, the gas security of the countries of the Central Europe in a sense of geographical strategy is a collateral of the outdated transport infrastructure, oriented at the import from Russia (Luft & Korin 2009).

The turning points, bringing the visions of energy security within specific countries of the Central Europe closer to each other and showing this unhealthy relationship were the gas crises between Russia and Ukraine in 2006 and 2009 (Smith, 2008, p. 16-19). In 2009 the supplies of 300 million cubic metres per day were ceased for 14 days and thus the loss incurred by the countries of the EU and the South-Eastern Europe amounted to approximately 1.6 billion Euro. The countries of the Central Europe experienced significant interruptions in the supplies of gas; only the Czech Republic imported some amount of gas through the system of German powerlines, which compensated for the deficiencies of the Russian supplies. Other countries could only rely on the accumulated strategic reserves. The country which suffered the most as a result of cutting of the gas supplies was Slovakia (Muller-Kraenner 2007, pp. 35-37). For the first time in its history it was completely cut away from the external supply of

gas, whilst Poland did not receive 80% of the planned gas supply and Hungary – 60%. The crises showed that Central Europe had to intensify the creation of an internal energy market.

The internal energy market, has the objective to guarantee a free movement of energy between the EU countries. It must be stressed that the countries of the Central Europe made a great effort in the field of structural transformation in the electrical energy sector. It must be stressed that the reform which took as much as 50 years in the western countries, was carried out within 15 years in the countries of the Central and Eastern Europe. Within that period they managed to transform natural monopolies, create regulatory bodies, partly separate the production, transmission and distribution of energy, privatise some entities active in the market, increase the efficiency of the sector, improve ecological standards and also become involved in the international trade of electricity.

Moreover on the 11th July 2016, the representatives of the Czech Republic, Poland, Romania, Slovakia and Hungary signed a comprehensive agreement concerning the connection of Poland and Romania to the integrated *market coupling* mechanism, in the day-ahead market, acting already in the Czech Republic, Slovakia and Hungary, resulting in lower wholesale prices of electrical energy (cf. Table 2). The regional energy market in the Central Europe, with its *market coupling* mechanism became a link of the unified European market of electrical energy.

Areas 3 and 4 (Table 2) connected with the improvement of the energy efficiency and economy decarbonisation (by means of reducing CO2 emission and increasing the share of renewable sources of energy in energy balances) are the areas in which the countries of Central Europe need to catch up a lot, namely in the increase of energy efficiency of the construction industry and transport, financial support for the investments in renewable sources of energy, which includes also the investments in low-emission technologies in energy production.

Area 5, which concerns the expenditures on research and innovations in energy production and in the protection of the natural environment, also requires some improvement. It must be stressed that Hungary and Poland already devote financial resources from the public aid on research and innovations in energy production and environment protection on the scale above the EU average whereas in Slovakia, these expenditures are below the European average. The innovations and research in energy production pose an important subject in the Czech Republic with regards to an outdated electrical infrastructure leading to high network costs.

3 THE OBJECTIVES OF THE ENERGY UNION PROJECT

The energy union was conceived in response to the energy crisis that occurred in 2009 between Ukraine and Russia. In principle, it is designed as a mechanism to ensure the energy security of countries that depend on the delivery of energy (e.g. gas) from a single source, such as, for instance, the Visegrad Group (Buchan & Keay, 2016, pp. 150-152). An important obstacle to its formation is the clash of two distinct approaches, represented by the countries of Western Europe on the one hand and those of Central and Eastern Europe on the other. The former consider the gas market fluid enough for their needs and prefer to leave it up to the interaction of purely economic and business factors. The latter, on the other hand, informed by the experience of Russian-Ukrainian gas crises, argue that they spend more on gas than other countries, including Western EU. In terms of energy security, therefore, Central and Eastern Europe has the most to gain from the energy union. Heavy reliance on Russian imports and high gas prices make the project especially important for countries such as Poland, Hungary, Slovakia, and the Czech Republic.

Thus the objectives of the energy union do not share equal interest among all EU member states. This is also related to the national interests of some countries which for many years have had good relationships with the Russian Federation, not only in the sector of energy sources. These EU member states have such a developed energy infrastructure and also sufficient reserves of energy sources that they do not seek any change of the existing co-operation mechanisms.

The energy union is thus an attempt at centralising the issues pertaining to natural gas and the transfer of the point of gravity in this area from EU member states to EU institutions. A Polish proposal concentrated on the supplies of natural gas and the postulates concerned the decrease of dependence on gas supplies from Russia. Therefore solutions whose aim was to strengthen the EU in this respect were proposed (Pach-Gurgul 2016, p.143-145):

- Foundation of one European Institution which could purchase gas for all EU member states, which would allow for the decrease of the disparity in the purchase prices within the EU,
- The introduction of a principle that in the case that one or a few EU member state(s) are facing the cutting off of gas supplies, other countries would provide them with assistance,
- Financing of up to 75% of the necessary institutions (gas collection reservoirs, pipelines) by the EU in countries which are most dependent on Russian gas,

- The necessity to use domestic energy carriers, mainly coal, and signing agreements for the purchase of gas from exporters from outside the EU,

On 25th February 2015 the European Commission officially adopted a package concerning the creation of the energy union (European Commission 2015a). The package consists of three communications:

1. A framework strategy for the energy union,
2. The EU vision of a new global climate agreement,
3. The measures for meeting the target 10% of the electrical energy in inter-system connections by 2020.

The framework strategy for a stable European Union (European Commission 2015a) defines three long-term objectives for EU policy: security of supplies, sustainability and competitiveness. The priorities of the energy union, promoted by the Polish government to only a minor degree, were reflected in the project proposed by the European Commission and eventually adopted by the member states in 2015. The proposal of the Polish government concentrated first of all on the union within the gas and oil sector and on the full use of the domestic energy carriers, such as hard coal and shale gas. The adopted package, however, focuses on the issues concerning electro-energy and also on the development of renewable sources of energy. Its core comprises five strongly interrelated areas:

1. Energy security, solidarity and confidence.
2. Internal energy sector which requires further measures.
3. Energy efficiency understood as a way of minimising energy demand
4. Decarbonisation of the economy
5. Scientific research, innovation and competitiveness

The strategy concerning the Energy Union is a very reduced version of the Polish proposal of joint gas purchasing. The document adopted by the European Commission only mentions that voluntary joint gas purchasing should be taken into consideration. The condition for such purchasing must be dependence on one supplier and the occurrence of a crisis in supplies.

The further part of the package, a document titled, *Paris protocol – tackling global climate change 2020* (European Commission 2015b), presents the EU vision of the new global climate agreement which was to be adopted in December 2015 in Paris. Eventually, after the December conference of 2015, the Paris Protocol was approved with one of its main provisions being the inhibition of the increase of an average temperature on the world on the level much below 2°C in comparison with preindustrial period and taking measures to make it

not higher than 1.5°C. The last part of the Energy Union package proposes meeting the 10% target of electrical energy in inter-system connections by 2020.

3 BENEFITS OF THE ENERGY UNION FOR THE VISEGRAD GROUP COUNTRIES

A package on the creation of the energy union has been adopted. However, some doubts concerning the sense of its creation are frequently raised by politicians of specific member states. The "energy interest" of the countries of Central Eastern Europe, which are highly dependent on gas supplies from Russia and the energy interest of such countries as France or Germany or the ecological Denmark vary significantly. Energy union objectives consist of the integration of national energy markets, guaranteeing the freedom of energy movement across the borders of the EU countries (Leal-Arcas 2016, p.18). New technologies, measures for energy efficiency and renewed infrastructure are intended to increase energy security, reduce household spending on energy, create new workplaces, facilitate the transition to a low-carbon economy.

The pruned down Polish postulate of joint gas purchases dampened the enthusiasm of the Visegrad countries. After a series of meetings with all member states at the turn of 2015 and 2016, Maroš Šefčovič, the Commissioner for the energy union, attempted to present its benefits for the EU at large, as well as the specific advantages for the Visegrad Group (cf. table 3).

Tab. 3: Potential benefits of the Energy Union for the Visegrad countries

Country	Energy security	The internal energy market	Decarbonisation	Energy efficiency	Research and innovation
Czech Republic	Reduction of energy dependence through the diversification of gas sources, -a better coordination of emergency response mechanisms among Member States.	Market integration of renewables and regional cooperation among Member States' support schemes will benefit customers and businesses. Five Projects of Common Interest in the electricity sector aim at increasing capacity -North-Western and Southern borders and will contribute to addressing the issues of loop power flows between Germany, Czech	The European Fund for Strategic Investments will Facilitate investments in energy infrastructure, which needs to be modernised, in the expansion of renewable generation and in energy efficiency. This can only benefit the Czech Republic in its transition to a less carbon intensive economy.	Support for investments in the buildings sector by strengthening the targeted use of financial instruments. Significant contributions can be expected from the European Structural and Investment Funds.	The EU will provide an integrated research strategy as well as more targeted funding along common goals and propose an upgraded Strategic Energy Technology Plan and a strategic transport R&I agenda in 2015-2016.

Country	Energy security	The internal energy market	Decarbonisation	Energy efficiency	Research and innovation
		Republic, Austria and Slovakia.			
Hungary	Reducing Hungary's dependency on a single external supplier both for natural gas and nuclear fuel by developing infrastructure and reinforcing electricity and natural gas interconnections in the Central and Eastern Europe.	Diversifying supply sources and routes will not only reduce the risk of supply disruptions but will also enhance competition, having a beneficial impact on energy prices and providing affordable energy for households and business customers.		Strengthening the targeted use of financial instruments for increased investments in the buildings and transport sectors, e.g. through European Structural and Investment Funds.	The integrated research strategy as well as more targeted funding, an upgraded Strategic Energy Technology Plan and a strategic transport Research and Innovation agenda will support developing low-carbon technologies.
Poland	Reduce energy dependence by diversification of gas sources and its security of supply by coordinating the emergency response mechanisms among Member States.	Further opening of the electricity and gas markets and deregulation of prices in the gas market will enable more choice for consumers and may lower energy prices.		The Energy Union will strengthen the targeted use of financial instruments for increased investments.	The Energy Union's strategy for Research and Innovation can support Poland's progress on low-carbon technology development.
Slovakia	Reducing energy dependence through the diversification of EU gas sources, suppliers and routes Better coordination of emergency response mechanisms among Member States. The development of North-South infrastructure and reverse flow options.	Market integration of renewables and regional cooperation among Member States' support schemes will benefit Slovak customers and businesses. Projects of Common Interest will speed up the process of capacity and functionality upgrade of the existing regional infrastructure and construct the missing energy infrastructure.	Supporting investments in the buildings sector and low-carbon transport systems by strengthening the targeted use of financial instruments. Significant contributions can be expected from the European Structural And Investment Funds.		Developing the regulatory framework for supporting cost-effective investments in renewable energy. It will ensure that Slovakia continues to decarbonise its economy and stay on track for achieving its 2020 climate and energy targets.

Source: the author's own work on the basis of Benefits of the Energy Union country factsheets https://ec.europa.eu/priorities/publications/benefits-energy-union-country-factsheets_en (10.01.2017).

A potential joint benefit for the countries of Central Europe is the opportunity to reduce their reliance on Russian gas imports through the diversification of sources and suppliers. The reinforcement of the solidarity mechanism elaborated within the EU during gas crises can also have a positive impact on the energy security of Central European countries.

In terms of the internal energy market, the union should make it easier to connect renewable sources to the grid, as well as facilitate the regional cooperation between the countries of Central Europe, which is likely to increase the capacity of energy that flows between the individual member states. Five infrastructural projects, known as the "Projects of Common Interest", have also been pointed out as likely to increase the capacity of energy flow between Germany, Slovakia, Austria, and the Czech Republic.

The energy union supports the use of financial instruments and investment in construction, renewable energy sources, and low-emission technologies, which may also help achieve the objectives of the climate and energy package. An important contribution can be expected from European structural and investment funds.

CONCLUSIONS

The energy union is a response to the gas crisis that occurred in 2009 between Russia and Ukraine and its consequences for EU member states. It is designed to integrate national energy markets, guaranteeing the free flow of energy across the borders of the European Union. As previously mentioned, due to differences in national priorities and the bilateral relations of individual member states with Russia, the project meets with greater interest in some countries than in others.

However, the energy union seems to present a golden opportunity for the Visegrad Group. The countries of the region continue to consume a lot of energy, show low energy efficiency, heavy reliance on Russian gas imports, relatively low investment in research and development, and high CO_2 emissions in the energy sector, and thus stand a lot to gain from the energy union. The project may help close the gap that separates them from old EU member states, particularly in terms of increasing energy security, diversifying import sources and suppliers, and bolstering regional cooperation. The energy union may also help the Visegrad Group increase energy efficiency in the transport and construction sector. It can also be expected to promote renewable energy sources (as it already does), and thus facilitate the transition to a low-emission economy.

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State Aid for R&D&I and Its Impact on the Competitiveness of the EU Member States - The Case of Central and Eastern Europe

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Abstract: The subject of the article is to present the conditions of admissibility of State aid in the European Union, taking into account the rules applicable to the horizontal State aid. The qualitative analysis of State aid granted by the Member States is carried out under the provisions of the Treaty on the functioning of the European Union and the rules of State aid admissibility on the basis of the implementing regulations, adopted by the European Commission in 2006 and 2014 on State aid provided under the framework for State aid for research, development and innovation (R&D&I). Statistical data for quantitative analysis are gathered on the basis of reports published by the European Commission on State aid granted by Member States. This has to lead to verification of two research theses. According to the first thesis, the Central and Eastern Europe countries approved and granted State aid for R&D&I by far smaller amounts than the EU-15 Member States. Whereas the second thesis highlights that the volume of expenditure on State aid for R&D&I in respect of the whole European Union and particular Member States, should be positively correlated with the rate of GDP per capita, determining the level of development and competitiveness of the European economy. This analysis is carried out based on the linear regression model. The response variable (dependent variable Y) is the GDP per capita, and explanatory variable (independent variable X) is the expenditure on State aid for research and development and innovation.

Keywords: state aid, R&D&I, European Union, competition policy, competitiveness

JEL Classification codes: E62, K20, K33

INTRODUCTION

The foundation of European Union policy in the area of State aid is the notation in Article 107 par. 1 of the Treaty on the functioning of the European Union (TFEU) (OJ C 326, 26.10.2012), according to which the State aid is inconsistent with the internal market. Article 107 par. 1 TFEU states that: "Subject to other provisions foreseen in the Treaties, any aid provided by a Member State or by means of State resources in any form, which disturbs or threatens to disturb the competition by favouring of certain enterprises or the production of certain goods shall be inconsistent with the Internal market within the scope as it affects the trade between Member States". That means, in order to prevent State subsidies from distorting competition in the internal market and affecting trade between Member States in a manner contrary to the common interest, Article 107 par. 1 TFEU lays down the principle that State

aid is prohibited. In certain cases, however, such aid may be compatible with the internal market on the basis of Articles 107 par. 2 and 107 par. 3 TFEU. State aid for research and development and innovation (R&D&I) will primarily be justified on the basis of Articles 107 par. 3 point (b) and 107 par. 3 point (c) TFEU, according to which the Commission may consider compatible with the internal market State aid to promote the execution of an important project of common European interest or to facilitate the development of certain economic activities within the Union, where such aid does not adversely affect trading conditions to an extent which goes contrary to the common interest.

The purpose of this article is to analyze the conditions of admissibility of State aid for research and development and innovation. The analysis of State aid should lead to the verification of two research theses. According to the first thesis, the Central and Eastern Europe countries approved and granted State aid for R&D&I by far smaller amounts than the EU-15 Member States. Whereas the second thesis highlights that the volume of expenditure on State aid for R&D&I in respect of the whole European Union and particular Member States, should be positively correlated with the rate of GDP *per capita*, determining the level of development and competitiveness of the European economy. The positive correlation of GDP *per capita* with the amount of expenditure on State aid for R&D&I would mean that with increasing amount of R&D&I aid to undertakings their competitiveness measured in terms of GDP *per capita* should increase, and thus the competitiveness of national economies and the competitiveness of the EU economy ought to increase.

1 LITERATURE REVIEW

Promoting research and development and innovation is an important Union objective laid down in Article 179 TFEU, which states that: "the Union shall have the objective of strengthening the scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, and encouraging it to become more competitive, including in its industry, while promoting all the research activities deemed necessary (…)". Articles 180 to 190 of the Treaty determine the activities to be carried out in that respect and the scope and implementation of the multiannual framework programme.

The particularly favourable assessment of R&D&I aid is underscored in the conclusions of the European Council of Lisbon of March 2000. In this document, the European Council calls upon the Member States to reduce the total amount of State aid, in shifting their emphasis from the promotion of individual undertakings or sectors to horizontal goals of common

interest to the Community: that is, to horizontal aid such as R&D&I aid (European Council (Lisbon) of 23/24 March 2000, Conclusion of the Chairman, point 17). The European Council of Barcelona concluded in March 2002 that the total expenditures for R&D&I in the European Union should be increased from 1.9% of GDP in the year 2000 to 3% of GDP by the year 2010, in order to fill the EU's deficit in this area in comparison to its major competitors. State aid for R&D&I will also play a role in achieving this objective, even if the conclusions themselves emphasize that two thirds of the new investments should be financed by the private sector (European Council (Barcelona) of 15/16 March 2002, Conclusion of the Chairman, point 47).

The Europe 2020 strategy (European Commission 2010a) identifies research and development as a key driver for achieving the objectives of smart, sustainable and inclusive growth. To that effect, the Commission set out the headline target according to which 3% of the Union's GDP should be invested in R&D&I by 2020. In order to foster progress in the field of R&D&I, the Europe 2020 strategy in particular puts forward the "Innovation Union" flagship initiative (European Commission 2010b) aiming at improving framework conditions and access to finance for research and innovation in order to ensure that innovative ideas can be turned into products and services that create growth and jobs. The Europe 2020 communication noted that State aid policy can "actively and positively contribute (…) by prompting and supporting initiatives for more innovative, efficient and greener technologies, while facilitating access to public support for investment, risk capital and funding for research and development" (Podsiadło 2016a; Podsiadło 2016b).

The Community framework for State aid for research and development and innovation and the General Block Exemption Regulation (GBER) form the legal basis for the assessment of R&D&I State aid measures (von Wendland 2015). The R&D&I framework gives form to the broad discretion of the European Commission, in the context of Article 107 par. 3 point (b) and 107 par. 3 point (c) TFEU, to exempt State aid for the benefit of R&D&I from the aid prohibition of Article 107 par. 1 TFEU and to approve such aid as compatible with the internal market - it thus effects a self-binding commitment of the Commission with respect to its evaluation of planned grants of new aid coming within the scope of the framework (Haidenhain 2010). The current R&D&I framework has been in effect since 1 July 2014 (European Commission, 2014a). It succeeds the Community frameworks of 1986 (OJ 1986 C 83/2), 1996 (OJ 1996 C 45/5) and 2006 (OJ 2006 C 323/1).

Many cases of R&D&I aid fall under the General Block Exemption Regulation (GBER), which allows certain types of aid to be granted without notification to the Commission

(European Commission, 2008; European Commission, 2014b). Aid not falling under the GBER must be submitted for approval by the Commission before it may be implemented. In most cases, however, where prior approval is necessary, R&D&I aid is offered under aid schemes or programmes which are approved as a whole, thereby avoiding the need for approval of each individual award on a case-by-case basis.

The European Union's prosperity is dependent on her capacity to compete in the global market (Citi 2015). For this reason, we need to measure EU economy's positions in terms of competitiveness. Competitiveness creates the necessary conditions for sustainable development, for the creation of new production activities and new jobs - and for a better quality of life. But when we talk about competitiveness, what do we really mean? If we refer to business competitiveness, then we mean market success and the acquisition of new market shares. The European quest for competitiveness is qualified: it should be compatible with the European dream (Rifkin, 2004). Europeans value quality of life higher than the accumulation of wealth and have a vision of the society they want to live in as a society that values solidarity, the well-being, and the personal development of her citizens; that respects the environment, the less favoured individuals and the less developed countries (Bakker, de Vreese 2016). Broad understanding of competitiveness can also be found in studies of Organization for Economic Cooperation and Development (OECD). In terms of this organization the competition is: "the degree to which, under open market conditions, a country can produce goods and services that meet the test of foreign competition, while simultaneously maintaining and expanding domestic real income" (OECD, 1992). For such a definition of competitiveness positively relate, inter alia: Jan Fagerberg, Martin Srholec and Mark Knell, Norwegian economists, who add that "the concept usually has a double meaning, it relates both to the economic well-being of its citizens, normally measured through GDP *per capita*, and the trade performance of the country" (Fagerberg et al. 2007, p. 1595).

In terms of the European Union development strategies – of Lisbon Strategy implemented till 2010 and the currently implemented "Europe 2020" - the competitiveness of the European Union is a potential competitiveness in the ten-year term. In so-called pyramid of competitiveness proposed by the European Commission in 1997 a set of factors was presented on which it is possible to build models of competitiveness in not only macroeconomic but microeconomic term (Zielińska-Głębocka 2000, p. 14). At the top of this pyramid as the main factor of competitiveness there was the standard of living, which synthetic measure is GDP *per capita*. In turn two factors, i.e., the employment rate and productivity have the impact on quality of life. Further decomposition of the pyramid allows for the identification of more

precise determinants characterizing the level of employment and productivity, so factors affecting the overall level of competitiveness. One of them is the economic policy of the State, which is carried out, among others, through the instruments of State aid, having a substantial impact on both the competitiveness of the economy as a whole and on particular enterprises operating within it. Beside human, capital, and natural resources and the international environment the State intervention is undoubtedly one of the most significant determinants characterizing the competitiveness of the national economy.

2 PROBLEM FORMULATION AND METHODOLOGY

According to the definition used by the European Commission, the competitiveness is defined as "the ability of the economy to provide residents with high and rising standard of living and a high level of employment and productivity, based on a solid basis" (European Commission 2001). The measure of competitiveness is here the indicator determining the size of the GDP *per capita*. The size of GDP *per capita* in relation both to the entire EU and individual Member States determines the standard of living and level of economic development. The higher is the value of GDP *per capita* the higher the country competitiveness. At this point, it seems reasonable, therefore, to conduct a comprehensive analysis of the relationship between the EU Member States expenditure on State aid for R&D&I and the size of GDP *per capita*. The response variable (dependent variable Y) is the GDP *per capita*, and the explanatory variable (independent variable X) is the expenditure on State aid for R&D&I.

Statistical analysis will be carried out based on two source tables. The first table shows the calculations for the linear regression model concerning respectively the slope parameter (directional factor β).

t Stat is a test of linear relationship occurrence between expenditure on State aid for R&D&I and the size of the GDP *per capita*. This statistical test allows to verify the authenticity of the so-called null hypothesis that the parameter of the regression function I type β is equal to zero, with the alternative hypothesis that it is not equal to zero ($H_0: \beta = 0$; $H_A: \beta \neq 0$). The acceptance of the null hypothesis means the lack of the influence of the R&D&I aid for provided by the Member States of the European Union on the size of their GDP *per capita*. From the perspective taken in this paper it will be essential to reject the null hypothesis in favor of the alternative hypothesis which states that between the studied phenomena - expenditure on State aid and the size of the GDP *per capita* - there is a significant statistical relationship. From the tables of critical values of t-Student it is seen that $\pm t_{\frac{\alpha}{2}} = \pm 2.1604$ for α

= 0.05 and n - 2 = 13 degrees of freedom. The null hypothesis can be rejected in favor of the alternative hypothesis only when $t_b < t_{\frac{\alpha}{2}}$ or $t_b > t_{\frac{\alpha}{2}}$, that is when $-t_b < -2.1604$ or $+t_b > +2.1604$.

The second table contains regression statistics. Among the regression statistics are: the correlation coefficient, determination coefficient, standard error and the parameters of F test, that is the value of F-test and the probability of making type I error, when the hypothesis is verified concerning the lack of impact of expenditure on State aid on the size of the GDP *per capita* (irrelevance of State aid expenditure in the regression model). F-test, similarly as described above t-test, is used for testing the significance of linear regression coefficient β evaluation. The checking of this test is a statistic F having F-Snedecor distribution of k_1 and k_2 freedom degrees. When rejecting the null hypothesis $F > F_\alpha$ of no relation between expenditure on State aid and the size of the GDP *per capita* and accepting the alternative hypothesis of the existence of a statistically significant relationship between the variables. From the table of critical values of the F-Snedecor for $k_1 = 1$ (1 independent variable) and $k_2 = n - 2 = 13$ degrees of freedom and $\alpha = 0.05$ we read $F_{0,05} = 4.67$. Thus, the alternative hypothesis can be adopted only when F > 4.67.

3 MODEL AND DATA

State aid may be necessary to increase R&D&I in the European Union in a situation where the market, on its own, fails to deliver an efficient outcome. In order to assess whether State aid is effective in reaching the objective of common interest, it is first necessary to identify the problem, which needs to be addressed. State aid should be targeted towards situations where it can bring about a material improvement that the market cannot deliver on its own. Member States should explain how the aid measure can effectively mitigate the market failure associated with reaching the objective of common interest without that aid.

Member States granted aid earmarked for R&D&I of about € 125.9 billion in 2000-2014: EU-15 - € 120.2 billion, EU-12 - only € 5.7 billion (Eurostat, 2017). The largest amounts of R&D&I aid have been granted by Germany (€ 34.1 billion), France (€ 23.2 billion), Italy (€ 14.2 billion), United Kingdom (€ 13.1 billion) and Spain (€ 10.1 billion). In the Central and Eastern Europe area the countries that provided the greatest R&D&I aid are Czech Republic, Hungary, Poland and Slovenia - respectively € 2.5 billion, € 1.0 billion, € 0.9 billion and € 0.7 billion. Does the R&D&I aid provided by Member States to enterprises have an adverse effect on the condition of their competitiveness, leading to a decrease in the PKB *per capita*? Or

does such aid not have any impact on the PKB *per capita*? Answers to these questions will be provided by the regression analysis.

3.1 Model calibration

The most essential statistical test in a simple regression analysis is a test of whether the regression coefficient equals zero. If in a particular case a conclusion can be drawn that the slope coefficient of the true regression line in the population equals zero, it will mean that between expenditures on State aid for R&D&I and the size of the GDP *per capita* there is no linear relationship, or expenditures on aid and the size of the GDP *per capita* are not linearly dependent. Therefore, it is needed to test the occurrence of linear relationship between expenditures on State aid for R&D&I in the Member States and the size of the GDP *per capita*. The statistics on this test are shown in table 1.

Tab. 1: The size of R&D&I aid and the GDP *per capita* – the analysis of variance: the line "variable X"

EU Member States	Regression coefficient *b*	Standard error *Sb*	*t* Stat *tb*	*p*-value	Lower 95%	Upper 95%
Austria	1,72E-06	4,77E-06	0,361459	0,723563	-8,6E-06	1,2E-05
Belgium	2,1E-06	9,23E-07	2,270919	0,040799	1,02E-07	4,09E-06
Bulgaria	6,56E-05	3,53E-05	1,857083	0,086096	-1,1E-05	0,000142
Croatia	-	-	-	-	-	-
Cyprus	0,00018	0,000243	0,739068	0,473	-0,00035	0,000705
Czech Republic	1,31E-05	1,16E-06	11,27228	4,41E-08	1,06E-05	1,56E-05
Denmark	-2,1E-06	3,88E-06	-0,53179	0,603839	-1E-05	6,31E-06
Estonia	0,000147	9,36E-05	1,574498	0,139386	-5,5E-05	0,000349
Finland	2,36E-05	8,62E-06	2,739084	0,016886	4,99E-06	4,22E-05
France	9,81E-07	2,27E-07	4,321149	0,00083	4,91E-07	1,47E-06
Germany	1,97E-06	1,19E-06	1,648764	0,123139	-6,1E-07	4,54E-06
Greece	0,000129	8,23E-05	1,567482	0,141012	-4,9E-05	0,000307
Hungary	2,64E-06	2,41E-06	1,096767	0,292644	-2,6E-06	7,85E-06
Ireland	2,77E-06	9,15E-06	0,302665	0,766934	-1,7E-05	2,25E-05
Italy	-6,7E-07	4,6E-07	-1,44903	0,171021	-1,7E-06	3,27E-07
Latvia	6,16E-06	5,58E-05	0,110403	0,913776	-0,00011	0,000127
Lithuania	0,000193	8,07E-05	2,393633	0,03247	1,88E-05	0,000368
Luxembourg	1,87E-05	4,22E-05	0,442595	0,665333	-7,2E-05	0,00011
Malta	0,000573	0,000234	2,449877	0,02922	6,78E-05	0,001079
Netherlands	4,41E-06	1,9E-06	2,318655	0,037342	3,01E-07	8,53E-06
Poland	1,37E-05	5,2E-06	2,629538	0,020806	2,44E-06	2,49E-05
Portugal	-1,6E-06	1,41E-06	-1,13109	0,278453	-4,7E-06	1,46E-06
Romania	1,87E-05	8,73E-06	2,140103	0,051885	-1,8E-07	3,75E-05
Slovakia	7,79E-05	5,06E-05	1,538966	0,147792	-3,1E-05	0,000187
Slovenia	1,48E-05	1,36E-05	1,088453	0,296163	-1,5E-05	4,42E-05
Spain	6,69E-07	5,79E-07	1,154715	0,268992	-5,8E-07	1,92E-06
Sweden	2,68E-05	2,03E-05	1,324383	0,208188	-1,7E-05	7,06E-05
United Kingdom	2,55E-06	9,14E-07	2,791995	0,015262	5,77E-07	4,53E-06
EU 28	3,4E-07	8,54E-08	3,980009	0,00157	1,55E-07	5,25E-07

Source: own calculations

On the basis of the calculations in table 1, it can be concluded that in the case of eight Member States (Czech Republic, Finland, France, Lithuania, Malta, Netherlands, Poland and United Kingdom), *the regression coefficient takes a positive value.* This relation occurs also at the level of the European Union (EU-28). Consequently, the increase in expenditure on State aid by €1 million is accompanied by an increase in GDP *per capita* by average: €13.07, €23.60, €0.98, €193.25, €573.46, €4.41, €13.67 and €2.55. At the level of the EU-28 increase in the value of GDP *per capita* is: €0.34. Margin of error is: €1.16, €8.62; €0.23, €80.73, €234.08, €1.90, €5.20 and €0.09. For the EU-28 it is €0.09. Bearing in mind however the confidence interval for the regression coefficient, it can be with a probability of 95% said that the increase of granted State aid for research and development and innovation by €1 million will cause an increase of GDP *per capita* of: Czech Republic from €10.56 to €15.57, Finland from €4.99 to €42.21, France from €0.49 to €1.47, Lithuania from €18.83 to €367.66, Malta from €67.77 to €1079.16, Netherlands from €0.30 to €8.53, Poland from €2.44 to €24.90, United Kingdom from €0.58 to €4.53 and EU-28 from €0.16 to €0.52. It should also be noted that the probability of type I error (p-value), involving the rejection of a true null hypothesis that, in the case of these six countries providing regional State aid do not significantly affect the size of the GDP *per capita* of the countries, is below the accepted level of significance, i.e. 0.05. The consequence is that the result of the study in relation to these countries, may be considered important, and thus the null hypothesis can be rejected in favour of the alternative hypothesis.

For none of the Member States the regression coefficient takes negative values, which means that the expenditure on State aid for R&D&I do not have a negative impact on GDP *per capita* of these countries. Identical request as to the proposed hypothesis can be obtained by analyzing the value of F test (127.06, 7.50, 18.67, 5.73, 6.00, 5.38, 6.91, 7.80 and for EU-28: 15.84), and F significance (0.00000004; 0.02; 0.0008, 0.03, 0.03, 0.04, 0.02, 0.02 and for EU-28: 0.002). F test parameters and regression statistics for the studied relationship between the size of the State aid for R&D&I and the value of GDP *per capita* in the European Union countries are shown in table 2.

In the case of Czech Republic, one can speak of a very strong correlation of aid granted for research and development and innovation with the amount of its GDP *per capita* in a positive sense. The value of the correlation coefficient is 0.95. This model has a very good fit to the empirical data, as its calculated coefficient of determination is 0.907185. Therefore, variations in GDP *per capita* in Czech Republic were explained in 90.72% with variations in expenditure on State aid for R&D&I, while the remaining 9.28% result from the impact of

other factors. If the coefficient of determination takes the values less than 0.5, the regression explains only less than 50% of the variation in GDP *per capita* and predictions based on such a regression model may be unsuccessful because the regression model explains then very little. This means that the predictions can be created basing on the Czech model, because the regression model is characterised by a very good fit and is little burdened with the estimation error, which provides grounds for precise forecasting.

Tab. 2: The size of State aid for R&D&I and the GDP *per capita* – regression statistics and F-test

EU Member States	Regression statistics			Test F	
	Corelation indicator	Determination coefficient	Standard error	F	Significance *F*
Austria	0,099751	0,00995	1684,669	0,130653	0,723563
Belgium	0,53294	0,284026	879,6767	5,157073	0,040799
Bulgaria	0,457894	0,209667	531,3337	3,448757	0,086096
Croatia	-	-	-	-	-
Cyprus	0,200805	0,040323	1110,698	0,546222	0,473
Czech Republic	0,952463	0,907185	386,5944	127,0643	4,41E-08
Denmark	0,145914	0,021291	1121,275	0,282803	0,603839
Estonia	0,400193	0,160155	1358,612	2,479042	0,139386
Finland	0,604924	0,365933	1508,654	7,50258	0,016886
France	0,76782	0,589547	438,747	18,67232	0,00083
Germany	0,415867	0,172945	1553,733	2,718423	0,123139
Greece	0,398694	0,158957	1499,694	2,456999	0,141012
Hungary	0,291022	0,084694	697,8947	1,202899	0,292644
Ireland	0,08365	0,006997	2085,882	0,091606	0,766934
Italy	0,3729	0,139054	850,3174	2,099674	0,171021
Latvia	0,030606	0,000937	1266,283	0,012189	0,913776
Lithuania	0,553089	0,305907	1314,991	5,729477	0,03247
Luxembourg	0,121839	0,014845	3518,003	0,195891	0,665333
Malta	0,562012	0,315858	729,6832	6,001899	0,02922
Netherlands	0,54089	0,292562	1162,06	5,376163	0,037342
Poland	0,589244	0,347208	1032,645	6,914472	0,020806
Portugal	0,299324	0,089595	242,6869	1,27936	0,278453
Romania	0,510417	0,260525	683,0383	4,580041	0,051885
Slovakia	0,392568	0,154109	1401,45	2,368415	0,147792
Slovenia	0,289001	0,083521	1328,665	1,184729	0,296163
Spain	0,305001	0,093025	717,6004	1,333368	0,268992
Sweden	0,344793	0,118882	2140,924	1,753991	0,208188
United Kingdom	0,612256	0,374857	1404,665	7,795237	0,015262
EU 28	0,74111	0,549245	701,0449	15,84048	0,00157

Source: own calculations

In the case of Finland, Lithuania, Malta, Netherlands, Poland and United Kingdom, the values of the correlation coefficient are included in the interval (0.54; 0.61). These countries are characterized by weak positive relationship occurring between the amount of provided State aid and the level of their PKB *per capita*. Moreover, there can be no satisfactory adjustment of the regression line to the empirical data. The determination coefficients for these countries equal: 0.37, 0.31, 0.32, 0.29, 0.35 and 0.37.

France and all countries of the European Union (EU-28) are characterized by occurring between the amount of provided State aid and the level of GDP *per capita*, strong positive correlation - respectively 0.77 and 0.74. However, the determination coefficients have a very low value and equal: 0.589547 and 0.549245.

CONCLUSION

The policy of the European Union in the area of State aid to further research and development and innovation involves balancing the tension between competition policy and research policy. While competition policy in the form of State aid policy aims to hinder the distortion of competition through State subsidizing of particular undertakings or economic sectors, the EU's research policy aims to promote R&D&I in the Europe, which includes creating incentives in the form of financing R&D&I activities.

In relation to the proposed research theses in the paper it also should be concluded that:

1. The first thesis, according to which the Central and Eastern Europe countries approved and granted State aid for R&D&I by far smaller amounts than the EU-15 Member States, were positively verified.

2. The second thesis, according to which, both in relation to the European Union and its individual Member States, the amount of expenditure on State aid for R&D&I is positively correlated with the rate of GDP *per capita*, determining the level of development and competitiveness of the European economy, should be rejected . It cannot be considered as a true the thesis that with increasing the amount of R&D&I aid the competitiveness of the EU economy increases. It was incorrect to assume that this correlation occurs for all Member States, because of the amount spent on State aid for R&D&I to undertakings are very different at the level of individual Member States. Different is also the proportion of aid actually granted in the aid approved by the European Commission.

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Trade Openness and Tax Revenues in Central and Eastern European Countries

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Abstract: Many countries have removed the constraints on the cross-border flows of goods, services and capital since collapse of Bretton Woods's system as of 1970s. Central and Eastern European countries belatedly liberalized their economies after dismantling of Communist Bloc in 1990s. In this study, we investigate the interaction between trade openness, FDI inflows and tax revenues in Central and Eastern European countries during 1995-2015 period employing panel data analysis. The results showed that there was unidirectional causality from total tax revenues to trade openness, while there was unidirectional causality from FDI inflows to tax revenues.

Keywords: trade openness, tax revenues, panel data analysis

JEL Classification codes: F14, H20, C23

INTRODUCTION

Tax revenue is one of critical income sources especially for the national governments with no natural resources to implement the basic and common requirements such as infrastructure, education, health and security. Increasing privatization in many countries has raised the importance of the tax revenues in recent years. Thus the total tax revenues as a percent of GDP increased 34.2% in 2013 from 24.8% in 1965 in OECD countries (OECD, 2016). On the other hand the total tax revenues as a percent of GDP were 44.9% in EU (European Union)-28 countries (Eurostat 2017). In this regard, many theoretical and empirical studies have been conducted to reveal the causes behind the tax revenues and the impact of tax revenues on various economic variables (e.g. see, Chelliah et al. 1975; Tait et al. 1979; Leuthold 1991; Kodila-Tedika & Mutascu 2013).

In this paper, we aim to investigate the impact of trade openness and foreign direct investment (FDI) inflows on the total tax revenues considering increasing openness and the accelerating globalization process all over the world. Both trade openness and FDI inflows have potential to affect the total tax revenues through enlarging tax base by economic growth and employment and decreasing the size of shadow economy by financial sector development (e.g. see, Linn & Weitzel 1990; Teera & Hudson 2004; Kodila-Tedika & Mutascu 2013; Tabasam 2014). Furthermore, increasing trade openness means the increases in export or

import. So increases in export and import duties also raise the total tax revenue. Also collection of these kinds of taxes are relatively easier vis-à-vis the other taxes and the probability of the tax evasion is relatively lower (Gupta 2007: 4).

Central and Eastern European (CEE) countries experienced an institutional and economic transformation with the collapse of Iron Curtain and liberalized their economies and attracted significant amounts of FDI inflows with the EU membership. In this study, we researched the interaction among trade openness, FDI inflows and tax revenues in Central and Eastern European (CEE) countries during the period 1995-2015 employing Dumitrescu and Hurlin (2012) causality test. In the next part of the paper, empirical literature about the relationship among trade openness, FDI inflows and total tax revenues will be reviewed. Then data and econometric methodology will be described in Section 3. Section 4 presents the major findings of the empirical study. Finally, the study will be over with the Conclusion part.

1 LITERATURE REVIEW

Tax revenues are important for the implementation of the educational and infrastructural investments by the governments. Therefore, many researchers have investigated the major determinants of revenues. However, there have been relatively less number of studies researching the interaction among trade openness, FDI inflows and tax revenue in the empirical literature and major studies were displayed in Table 1. Most of the studies have elicited that both trade openness and FDI inflows had positive impact on the tax revenues (e.g. see, Gropp & Kostial 2000; Ebeke & Ehrhart 2012; Nwosa et al. 2012; Mahmood & Chaudhary 2013; Okey 2013; Tabasam 2014; Bunescu & Comaniciu 2014; Odabaş 2016). However relatively fewer studies have revealed that trade openness or FDI inflows had negative impact on the tax revenues (e.g. see. Khattry & Mohan Rao 2002; Tabasam 2014).

Tab. 1: Literature summary

Study	Country/Country Group and Period	Method	Impact of trade openess on tax revenue	Impact of FDI on tax revenue
Gropp and Costial (2000)	19 OECD countries, 1987-1997	Panel regression	-	Positive
Mahmood and Chaudhary (2013)	Pakistan, 1972-2010	Regression	-	Positive
Okey (2013)	Western African countries, 1989-2009	Panel regression	-	Positive
Odabas (2016)	7 EU transition economies, 1996-2012	Dumitrescu and Hurlin (2012) causality analysis	-	One-way causality from FDI inflows to tax revenues
Varol et al. (2015)	11 Central and Easter European Union countries, 1980-2013	Dynamic panel regression	-	One-way causality from tax revenues to FDI inflows
Tabasam (2014)	Pakistan	Time series	Negative	Positive

Study	Country/Country Group and Period	Method	Impact of trade openess on tax revenue	Impact of FDI on tax revenue
		analysis, 1975-2012		
Bunescu and Comaniciu (2014)	27 EU countries, 1995-2011	Correlation analysis	-	Weak positive
Baunsgaard and Keen (2005)	111 countries, 1975-2001	Panel regression	Negative (high-income countries), Positive (the others)	-
Agbeyegbe et al. (2004)	Sub-Saharan Africa, (22 countries), 1980–1996	Dynamic panel regression	Positive	-
Khattry and Mohan Rao (2002)	80 developing and industrialized countries, 1970–1998	Panel regression	Negative	-
Adam et al. (2001)	22 countries in Sub-Saharan Africa, 1980-1996	Panel regression	Positive	-
Baunsgaard and Keen (2010)	117 countries, 1975-2006	Panel regression	Positive in high-income countries and negative in low income countries	-
Ebeke and Ehrhart (2012)	37 Sub-Saharan African countries, 1980-2005	Panel regression	Positive	-
Nwosa et al. (2012)	Nigeria, 1970-2009	Regression	Positive	-
Cag´e and Gadenne (2014)	130 developed and developing countries, 1792-2006	Panel regression	Negative	-

2 DATA AND ECONOMETRIC METHODOLOGY

2.1 Data

We used yearly values of total tax revenues as a percent of GDP as the dependent variable. On the other hand trade openness was proxied by sum of exports and imports as a percent of GDP. FDI net inflows as a percent of GDP was employed in the model as a control. Data availability was decisive in determination of sample and study period. Our sample consisted of 10 CEE countries (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia) and study period was 2005-2014. The summary of data description was given in Table 2.

Tab. 2: Data description

Variables	Symbols	Source
Total tax receipts (% of GDP)	TAXREV	Eurostat (2017)
Trade (% of GDP)	TO	World Bank (2017a)
FDI net inflows (% of GDP)	FDI	Eurostat (2016)

Source: authors' own elaboration

We benefited from Stata 14.0, E-Views 9.0 and Gauss 11.0 software packages for the econometric analysis of the study. The descriptive statistics and correlation matrix of the variables in the study are presented in Table 3. The correlation matrix showed that there was a positive correlation between both trade openness and total tax revenues and FDI inflows and total tax revenues.

Tab. 3: Descriptive statistics and correlation matrix

Variables	Obs	Mean	Std.Dev.	Min	Max
TAXREV	210	20.58762	2.433565	15.7	26.1
TO	210	111.2948	32.785	43.67839	184.5514
FDI	210	5.009497	6.222112	-16.07077	50.74153
Correlation matrix					
	TAXREV	**TO**	**FDI**		
TAXREV	1	0.0292	0.1936		
TO	0.0292	1	0.1118		
FDI	0.1936	0.1118	1		

Source: authors' own elaboration

2.2 Econometric Methodology

In this study, we will analyze the casual interaction among trade openness, FDI inflows and total tax revenues by causality test of Dumitrescu and Hurlin (2012). In this context, first we will analyze the stationarity of the variables, then implements the casual analysis.

3 EMPIRICAL ANALYSIS

3.1 Cross-sectional Dependency and Homogeneity Tests

We tested cross-sectional independency among the series with LM test of Breusch and Pagan (1980), because time dimension of the dataset (T=21) is higher than cross-sectional dimension of the dataset (N=10) and the results were introduced in Table 4. The null hypothesis, there is cross-sectional independency, was rejected at 1% significance level, because p value was found to be 0.0002. So we revealed a cross-section dependence among the series. Furthermore, we analyzed homogeneity with delta tilde test and adjusted delta tilde test of Pesaran and Yamagata (2008) and our findings revealed that null hypothesis, there is homogeneity, was rejected and the cointegrating coefficients were found to be heterogenous.

Tab. 4: Results of cross-sectional dependence and homogeneity tests

Cross-sectional dependency tests		
Test	**Test statistic**	**p-value**
LM (Breusch and Pagan 1980)	86.49	0.0002
LM adj* (Pesaran et al. 2008)	9.397	0.0000
LM CD* (Pesaran 2004)	5.749	0.0000

Homogeneity tests		
Test	**Test statistic**	**p-value**
Delta_tilde	1.113	0.033
Delta_tilde_adj	1.231	0.009

Source: Authors' own elaboration.

3.2 Panel Unit Root Test

We analyzed integration levels of the variables by CIPS (Cross-sectionally augmented IPS (Im-Pesaran-Shin (2003)) unit root test of Pesaran (2007), because we revealed a cross-sectional dependency among the series. We conducted CIPS test and the results were given in Table 5. The findings indicated that TAXREV, TO and FDI were stationary at the level.

Tab. 5: Results of CIPS panel unit root test

Variables	Constant	Constant+Trend
TAXREV	-1.368 (0.086)*	-0.355 (0.361)
d(TAXREV)	-5.703 (0.000)***	-5.980 (0.000)***
TO	-2.308 (0.010)***	-0.052 (0.479)
d(TO)	-4.503 (0.000)***	-2.584 (0.005)***
FDI	-1.813 (0.035)**	-0.411 (0.340)
d(FDI)	-5.491 (0.000)***	-3.969 (0.000)***

Source: authors' own elaboration

***, ** and * indicate that they are significance at 1%, 5% and 10% level respectively

3.3 Causality Test

We analyzed the casual interaction among total tax revenues, trade openness and FDI inflows by casuality test of Dumitrescu and Hurlin (2012) and the results were presented in Table 6. The results showed that there was unidirectional causality from total tax revenues to trade openness and unidirectional causality from FDI inflows to tax revenues and unidirectional causality from FDI inflows to trade openness. In other words, FDI inflows had significant impact on the tax revenues, while tax revenues had significant impact on trade openness.

Tab. 6: Results of causality test

Lags: 1			
Null Hypothesis:	W-Stat.	Zbar-Stat.	Prob.
TO does not homogeneously cause TAXREV	1.33039	0.35046	0.7260
TAXREV does not homogeneously cause TO	**4.93306**	**6.75759**	**1.E-11**
FDI does not homogeneously cause TAXREV	**2.46344**	**2.36551**	**0.0180**
TAXREV does not homogeneously cause FDI	0.89107	-0.43086	0.6666
FDI does not homogeneously cause TO	**2.23371**	**1.95695**	**0.0504**
TO does not homogeneously cause FDI	1.16869	0.06289	0.9499
Lags: 2			
TO does not homogeneously cause TAXREV	1.83510	-0.57068	0.5682
TAXREV does not homogeneously cause TO	**5.49429**	**3.62058**	**0.0003**
FDI does not homogeneously cause TAXREV	**4.88379**	**2.92130**	**0.0035**
TAXREV does not homogeneously cause FDI	1.72325	-0.69880	0.4847
FDI does not homogeneously cause TO	3.12362	0.90520	0.3654
TO does not homogeneously cause FDI	3.10645	0.88553	0.3759

Our findings showed that tax rates and FDI inflows are important factors affecting total trade volume. Furthermore, tax rates affects trade volume through FDI inflows, because tax rates are a significant determinant of FDI inflows. On the other hand FDI inflows may contribute to the tax revenues mainly through economic growth and employment.

CONCLUSION

Many countries have increased their openness and attracted FDI inflows in the recent years together with the accelerating globalization. In this paper, we researched the casual interaction among trade openness, FDI inflows and total tax revenues in Central and Eastern European countries, which experienced a full transformation, during the 1995-2015 period employing Dumitrescu and Hurlin (2012) causality test. The results revealed that there was unidirectional causality from total tax revenues to trade openness, while there was unidirectional causality from FDI inflows to tax revenues. So attraction of FDI inflows contributes to the tax revenues through invigorating the economy with increasing the economic growth and employment. But increasing openness has no significant impact on the total tax revenues, while tax rates are a significant determinant of trade volume. In this regard, national economies have chance to increase their revenues by taking measures for the attraction of FDI inflows. Future studies can focus on the interaction channels between FDI inflows and tax revenues.

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Online Insurance Management among German Farmers

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Abstract: This study seeks to determine the extent to which German farmers feel that digital management of their contracts and claims is important. It presents the results of a quantitative survey of 413 farmers via telephonic interview. The development of digitization is progressing throughout the insurance industry. Many InsurTech companies are entering the market and offer customers digital insurance folders in which the customers can easily manage their contracts. From the results of this study recommendations have been derived with regards to marketing agricultural insurance products for insurance companies as well as conventional intermediaries in order for these to keep up with the increasing digitization. Initially, the study shows that the importance of digital management for insurance contracts and claims processes is still low among German farmers. However, it becomes apparent that this is increasingly important for younger farmers.

Keywords: agricultural insurance, Germany, digitization, marketing

JEL Classification codes: G22, M31, Q13

INTRODUCTION

The characteristics of the insurance market and the continuous development of information and communication technology are leading to a change in buying patterns among farmers with regards to operational insurance products. In order to increase customer loyalty, and with a view towards the needs of the customer, the insurer may offer the customer online based insurance management and online damage procedure management possibilities. This raises the question of how important this is for German farmers and whether German farmer's age has an impact on his or her importance assessment of an online based insurance management possibility and online damage procedure management possibility. Due to the age distribution of German farmers and the future generation of farmers, this issue is significant for the marketing approach.

1 LITERATURE REVIEW

1.1 The insurance market from the farmers' perspective

An insurance product is an intangible service (Altenähr et al. 2010, p. 6). The insurance market is highly competitive and is a typical buyer's market (Koch 2005, pp. 55-56). Because

of the information that is required, the customer is tightly integrated into the service process (Schwickert & Theuring 1998). Personal communication is a key factor for a service company (Meffert & Bruhn 2012, p. 296). Personal consultation is essential in particular for more complex insurance products (Holzheu et al. 2000, p. 7). A general trend towards online conclusion of insurance is recorded (2012 = 14.18%); this relates predominantly to less complex products (Bohn 2013, p. 16). Agricultural concerns purchase both complex products to insure their business and less complex products to cover individuals or families. The reason for this is the legal form of agricultural operations in Germany. 90% (256,000) of the farms in Germany operate as a sole proprietorship (Statistisches Bundesamt 2014b, p. 24). For sole proprietorships a clear demarcation between private and personal risks is difficult, or there is an overlap (Hirschauer & Mußhoff 2012, p. 197).

The average age of farmers is high. In 2010, 68% of German farmers were over 45 years old (Statistisches Landesamt Baden-Württemberg 2011, p. 16). The high average age encourages a generational shift, which is taken into account in this study.

Digitisation is of great importance to German farmers. In 2014, 87% of German farmers were active on the Internet and 57% of farmers used the Internet on a daily basis (Kleffmann 2014). For 60% of entrepreneurs (not just farmers), the Internet is the most widely used source in searching for insurance-related information, ahead even of insurance advisors (Generali 2014).

Due to the great importance of the Internet, the need for a digital insurance system, with claims management which is available to the farmer at all times, shall be discussed.

1.2 Requirement for a digital customer area

Since insurance is mostly handled offline through an insurance advisor, although the Internet, with its numerous possibilities, is of great significance in the customer journey, a hybrid customer is discussed (Naujoks et al. 2014, p. 3). This requires an interlinking of analogue and digital offerings, necessitating an extensive modification of the IT (Naujoks et al. 2014, p. 3).

Insurance technology, also known as InsurTech, represents the digitisation of the insurance industry along the entire value chain (Kottmann & Dördrechter 2016, p. 4). Some of these new companies, such as Asuro, Knip or TED, offer customers a user-friendly way of managing their contracts online, with the aim of winning new customers (Kottmann & Dördrechter 2016, pp. 26-29). However, this online solution can also be put in place by the insurers themselves. Many insurance companies already offer an online customer area. Other

insurers, such as R+V Versicherung AG, who also offer special agricultural insurance plans, do not have these services, but they do offer the option of checking the status of claims processing online (R+V, 2016).

For customers with commercial insurance, claims processing is especially important. According to a survey by YouGov, commissioned by Generali, when selecting commercial insurance 45% of business people surveyed attach the greatest importance to service and the speed at which claims are paid out (2014).

When there is strong competition, which is particularly the case in the insurance industry, the question is also raised of how customers can be tied to the insurer. The psychological reasons for attachment are important here. These include, among other things, customer satisfaction and customer habits (Homburg 2015, p. 518). With regards to this aspect, digital management of insurance policies and potential claims offers the customer convenience that can lead to increased customer loyalty.

In order to gauge the level to which a requirement for an online-based insurance file and damage procedure management exists for German farmers, or respectively whether the emerging younger generation wants these, the following hypothesis is postulated:

H: Regarding operational insurance, a German farmer manager's age has an impact on his or her importance assessment of an online based insurance management possibility and online damage procedure management possibility.

2 METHODOLOGY

The basic population are all agricultural managers in Germany. In 2013 there were 285,000 farms in Germany (Statistisches Bundesamt 2014a, p. 1). The sample size is 413 farmers. Participants are selected by simple random sampling. Random samples allow inductive statistics of the sample relating to the population (Diekmann 2007, p. 380). The period in which the survey of farmers was carried out was between September 2014 and February 2015, and it was conducted using a standardised telephone interview. Special consideration was given to the objectivity, reliability and validity of the measuring instrument (Diekmann 2007, p. 437). The study of the importance of online based insurance management / online damage procedure management for the farm manager was performed with a rating scale question (ordinal level of measurement) - with five scale levels ranking from "not important (1)" to "very important (5)".

3 RESULT

Pursuant to the postulated hypothesis, it is expected that the age of farm managers will have an effect on their importance assessment of an online based insurance management possibility and online damage procedure management possibility. Table 1 gives an overview over the absolute group sizes, the mean ages and the variances as well as the standard deviations of the five groups, formed by the farm managers' assessment of importance of an online based insurance management possibility and online damage procedure management possibility.

Tab. 1: Assessment of importance and the age distribution group statistic

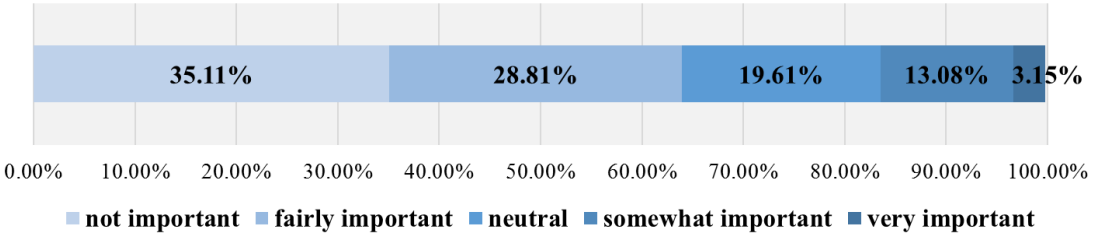
Assessment of importance	Group Size N_i	Mean Age M_i	Variance σ_i^2	Standard Deviation σ_i
Group 1: not important	145	53.99	117.07	10.82
Group 2: fairly important	117	53.85	113.21	10.64
Group 3: neutral	80	50.98	186.87	13.67
Group 4: somewhat important	54	49.20	196.84	14.03
Group 5: very important	13	43.85	121.22	11.01
Total	409			

Missing cases: 4

Source: own illustration, based on IBM SPSS Statistics for Windows, Version 24.0., IBM Corporation, 2016

It should be noted, that the interviewed farm managers assessed the online insurance policy administration and claims management rather less important – the mean value of the importance assessment across all interviewed farm mangers is 2.20. Figure 1 shows the percentage distribution of the five groups.

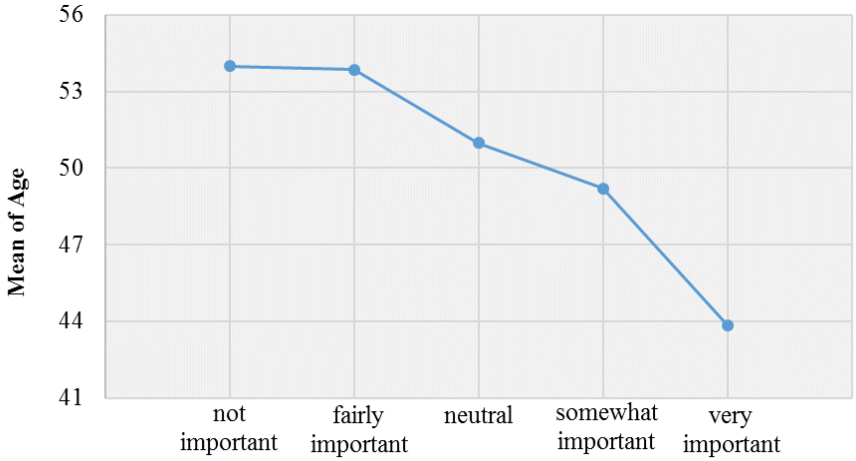
Fig. 1: Assessment of an online based insurance management / online damage procedure management



Source: own illustration

Figure 2 presents the line passing through the points represented by the mean ages of the several groups. The line shows a decrease of the mean age across the five groups ranking from "not important" to "very important". The mean age of Group 1 and Group 2 turns out to be considerably higher than for Groups 4 and 5. Subsequently, it seems reasonable to investigate whether the trend in the distribution of age across the groups is significant.

Fig. 2: Mean of age distributions of the five groups



Source: own illustration

The one-way independent ANOVA serves to investigate the hypothesis. In general, the parametric test is used to explore differences between more than two independent groups (Chalmer 1986, p. 164). This is achieved by investigating the equality of mean values of the several groups (Pennsylvania State University 2015). Thus, the null hypothesis states that all five groups, sorted by the assessment of importance of an online based insurance management are of the same average age (Field 2009, pp. 133,349).

To apply a one-way ANOVA, certain assumptions need to be met (Pennsylvania State University 2015). First, the observations need to be independent of each other and second; the dependent variable should be measured on at least an interval scale (Field 2009, p. 359). In this context, the first two qualifications are obviously fulfilled. Third, there is the assumption that the distributions within groups should be normal (Field 2009, p. 359). The Shapiro-Wilk test serves to test whether a distribution of scores significantly deviates from a normal distribution (Field 2009, p. 793). Referring to the sample data, the Shapiro-Wilk test is non-significant within the groups, indicating that data for the groups are not significantly different from normal (Field, 2009, p. 144). The test statistics are $D_1(145) = .98$, $D_2(117) = .99$, $D_3(80) = .97$, $D_4(54) = .95$, $D_5(13) = .90$ with $p > .05$ throughout.

Fourth, the variances of the groups should be equal (Field 2009, p. 359). However, for the sample data, the homogeneity of variance assumption is violated (Field 2009, p. 379). The test statistic of Levene's test is $F(4,404) = 3.374$, $p < .05$ (Field 2009, p. 562). For this reason, the F-ratio of the one-way ANOVA needs to be replaced by Welch's F (Field 2009, p. 379). It appears that Welch's $F(4, 73) = 4.00$, $p < .01$. Finally, this result leads to the rejection of the

null hypothesis. Hence, at least two of the five groups differ significantly on their average age (Northern Arizona University 2007).

Using Welch's *F*, an adjusted omega squared formula seems appropriate to calculate the effect size (Northern Arizona University 2007):

$$est.\omega^2 = \frac{df_{bet}\,(F-1)}{df_{bet}\,(F-1)+N_T}$$

Hence, the result of the one-way ANOVA is completed with $est.\omega^2$ = .03.

The information about which of the groups' mean age is significantly different from the others can be obtained by pairwise comparisons, carrying out post hoc tests (Field 2009, p. 372)

Finally, the Games-Howell test is chosen as follow-up test, as it is accurate in situations of unequal population variances and varying sample sizes (Field 2009, p. 374).

The analysis is based on ten group comparisons, whereby always two different groups are compared. Table 2 presents the main results of the Games-Howell analysis, i.e. the mean differences of two groups each, the respective *p*-values and the 95%-Confidence Intervals of the mean differences. The last column of Table 2 indicates the effect size (Cohen's *d*) for each group comparison.

Tab. 2: Means, Significances, Confidence Intervals and Cohen´s d of the group pairs

Group comparisons	Mean Difference $M_i - M_j, i \neq j$	Significance	95%-Confidence Interval	Cohen's *d*
Not important – fairly important	.14	$p > .05$	[-3.52, 3.80]	.01
Not important - neural	3.01	$p > .05$	[-1.89, 7.91]	.24
Not important – somewhat important	4.78	$p > .05$	[-1.11, 10.67]	.38
Not important – very important	**10.14**	$\mathbf{p < .05}$	**[.23, 20.05]**	**.93**
Fairly important -neutral	2.87	$p > .05$	[-2.15, 7.89]	.23
Fairly important – somewhat important	4.64	$p > .05$	[-1,35, 10,63]	.37
Fairly important – very important	**10.00**	$\mathbf{p < .05}$	**[.06, 19.94]**	**.92**
Neutral – somewhat important	1.77	$p > .05$	[-5.01, 8.55]	.13
Neutral – very important	7.13	$p > .05$	[-3.17, 17.42]	.57
Somewhat important – very important	5.36	$p > .05$	[-5.31, 16.03]	.42

Source: own illustration, based on IBM SPSS Statistics for Windows, Version 24.0., IBM Corporation, 2016

The Games-Howell procedure reveals a significant difference between the group pair "not important" and "very important" as well as between the group pair "fairly important" and "very important" (highlighted rows of Table 2). Referring to the other eight group pairs formed by the test, no more significant differences on the average ages can be identified.

For all pairwise comparisons, the effect size Cohen' s *d* is reported, calculated by (Cohen 1988; Northern Arizona University 2007):

Cohen´s $d = \frac{M_i - M_j}{\sigma_{pooled}}$, where $\sigma_{pooled} = \sqrt{\frac{\sigma_i^2 + \sigma_j^2}{2}}$.

Referring to the two significant group pairs, the effect size is large both times (d < .80) (Cohen 1988).

Resuming the results, the postulated hypothesis can be confirmed. Regarding operational insurance, a German farmer's age has an influence on his or her importance assessment of an online based insurance management possibility and online damage procedure management possibility. In addition, there is a certain trend in the distribution of age across the groups. Group 1 ("not important") and Group 5 ("very important") as well as Group 2 ("fairly important") and Group 5 significantly differ in their average age, i.e. younger farm managers tend to attach more importance to an online based insurance management possibility and online damage procedure management possibility than older ones.

4 RECOMMENDATIONS

It is revealed that digital management of insurance contracts and claims processes is generally of low overall importance for farm managers. Nevertheless, insurers and their agents should provide customers with the option of digital management for insurance contracts and claims processes. Special attention should be given on the future generation. Not only to avoid losing customers or the support of InsurTech companies, but due to a wide variety of benefits. In terms of marketing, online insurance policy administration and claims management provides a digital contact point. Since regular contact increases customer satisfaction (Naujoks et al. 2012, p. 13; Wichert 2014), this would be at least a starting point for extending opportunities for digital contacts. Thus the necessary interlinking of analogue and digital offerings is supported (Naujoks et al. 2014, p. 3). It further provides a way of making settlement of claims more transparent by allowing the status of claims to be accessed online. A digital insurance file also offers the option of examining their sometimes complex insurance products, and if necessary of managing these, online. The expansion of digitalization requires investments, but it can lead in cutting cost and additional profits for insurers (Kotalakidis et al. 2016, pp. 19-20).

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Change of Regulation in the Area of Financial Intermediation and Financial Advisory – Moving from the Executive Employee to the Professional Guarantor of the Independent Financial Agent and of the Financial Advisor

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Abstract: Legislation regarding one of the ways of selling financial services has been exposed to various changes in the recent period. The new regulation brought about by the unique distinction of financial intermediation and financial advisory. In the area of financial intermediation the independent financial agent is authorized to operate on the ground of a license granted by the National Bank of Slovakia. In the area of financial advisory the financial advisor is authorized to operate on the ground of a license granted also by the National Bank of Slovakia. The paper deals with the analysis of selected aspects of activities of independent financial agents and financial advisors, specifically with the obligation to include a professional guarantor in the organizational structure of these entities, if they are legal persons.

Keywords: financial intermediation, financial advisory, professional guarantor, independent financial agent, financial advisor

JEL Classification codes: K22, K31

INTRODUCTION

Until December 31st, 2009, the legislation regulating financial intermediation and financial advisory had been fragmented in specific acts concerning the performance of activities on the financial market. A different regulatory framework created unequal conditions of the business. With the aim of their unification from January 1st, 2010 the Act No. 186/2009 Coll. on Financial Intermediation and Financial Advisory and on amendments and supplements to certain laws as amended (hereinafter „Act") sets the conditions under which it is possible to carry out financial intermediation and financial advisory in the segments of insurance and reinsurance, capital market, supplementary pension saving, receiving of deposits, granting credits and consumer credits and old-age pension saving.

Unless otherwise stipulated by the Act[5], financial intermediation can be pursued only by a financial agent being an independent financial agent, a bound financial agent and a subordinate financial agent. Unless otherwise stipulated by the Act[6], financial advisory may be pursued in the territory of the Slovak Republic only by a financial advisor.

A common element of financial intermediation and financial advisory is a mandatory establishment of a professional guarantor in the organizational structure of independent financial agents and financial advisors - legal persons. Until December 31st, 2015 the legislation operated with the concept of the executive employee of the independent financial agent and of the financial advisor. From this term a legal uncertainty arose in practice. A change of regulation was needed. The new regulation, effective from January 1st, 2016 introduced the term "professional guarantor."

1 LITERATURE REVIEW

In 2009 Fusek draw attention to consumer protection on the financial market, he emphasized this issue from the aspect of the Act which had been valid, but not yet in force. Škriniar (2010) and Gellová (2010) urged the need for common rules concerning the providing of financial intermediation and financial advisory. Škriniar (2010) also had been introducing the client´s problem occurring due to the fact that subordinate financial agents had been changing their contractors – independent financial agents. Pénzeš (2011) focused on the fact that the regulation of the way how financial services are being mediated belongs to the system of financial consumer protection. Gergelyová (2012) is dealing with the theme of the future implementation of European regulation regarding financial intermediation and financial advisory in the sector of insurance and reinsurance. Barri (2015) is writing about certain aspects of unauthorized performing of activities on the financial market which contains also the area of financial intermediation and financial advisory as a licence to pursue the activity of an independent financial agent and a licence to pursue the activity of a financial advisor must be granted by the National Bank of Slovakia. In 2015 Čunderlík is again opening the topic of financial consumer protection. About financial intermediation and financial advisory and the conditions set by law Kravecová (2016) is reporting. Tkáč (2016) draws his attention on the off-site supervision over the independent financial agent covering also the theme of reporting

[5] Articles 11 and 12 of the Act regulate a category of a financial intermediary from another Member State of the EU or a State being a party to the Agreement on the European Economic Area within the insurance or reinsurance sector and the category of bound investment agent.

[6] Article 11 regulates a category of a financial intermediary from another Member State of the EU or a State being a party to the Agreement on the European Economic Area within the insurance or reinsurance sector.

as the duty of the professional guarantor. Novotná (2016) also focused on financial intermediation and financial advisory on the capital market. About the topic whether to choose a labour – law or a business – law relation Barancová (2004) had been writing.

2 THE LEGAL ENVIROMENT EFFECTIVE UNITL DECEMBER 31ST, 2015 – THE EXECUTIVE EMPLOYEE IN THE ORGANIZATIONAL STRUCTURE OF THE INDEPEDENT FINANCIAL AGENT/FINANCIAL ADVISOR

As mentioned above, independent financial agents and financial advisors (legal persons) mandatory created the function of the executive employee in their organizational structures. The concept of the executive employee could be interpreted from two aspects, as a term of labour law, but also from the perspective of financial law. Firstly, we analyze the term executive employee and its certain aspects in the light of the Act No. 301/2011 Coll. Labour Code as amended (hereinafter „Labour Code"). Secondly, we draw our attention to the Act.

Anchoring certain authorizations of executive employees, is the application of a fundamental principle of labour relations set by the Labour Code - the dispositive principle which is the right of the employer to dispose with the manpower of the employee within the regulatory framework, the legal performance of management activities is limited by their compliance with applicable law, generally binding legal regulations and internal regulations of the employer (Mintál 2013). The status of the executive employee is cumulating two kinds of duties. The first group is created by duties which has as an executive employee as an employee to his employer.[7] The second group consists of obligations arising from the legal status of a manager.[8] The executive employee is in charge of the entrusted unit, responsible for its maintenance and also for directing the organization of the unit. The executive employee is entitled to give instructions to employees and monitor their compliance, but this does not automatically mean that he is the competent authority to make legal acts on behalf of the employer in labour relations; only if the organizational or working guidelines anchor this right, the executive employee is allowed to act on behalf of the employer and his legal acts will bind directly to the employer (Valčuhová 2010).

The Act applicable until December 31st, 2015 used in its wording the same term as the Labour Code - "executive employee". The Act lacked an explicit reference to the provisions of the Labour Code. Meaning the legislator did not specify expressly that there must be a labour - law relation between the executive employees and independent financial agents, respectively

[7] Article 81 of the Labour Code
[8] Article 82 of the Labour Code

financial advisors. At the same time, the legislator did not explicitly prohibit the existence of a business - law relation between the executive employees and independent financial agents or financial advisors. In practice, in accordance with the principle of what is not prohibited by law is permitted, natural persons operating as executive employees of independent financial agents, respectively financial advisors, carried out this function also on the base of a business - law relation. As a result of this practice, natural persons acting as executive employees of independent financial agents, respectively financial advisors were not employees in accordance with the Labour Code.[9] They also did not fulfil the features of the legal definition of the term executive employee in accordance with the Labour Code.[10]

As mentioned above, in practice, there existed legal uncertainty regarding the legal relationship between the independent financial agent, respectively the financial advisor and his executive employee. Subjects operating in the area of financial intermediation and financial advisory faced a dilemma, whether it is necessary that a person defined as an executive employee of the independent financial agent, respectively financial advisor should fulfil the features of the legal definition of the term executive employee set by the Labour Code.

Legal certainty rose from the indirect amendment to the Act, the Article No 7 of the Act No 371/2014 Coll. on resolution in the financial market and on amendments and supplements to certain laws as amended (hereinafter „Amendment"). From January 1st, 2016 the term executive employee had been replaced by the term professional guarantor. The precising of the terminology did not change the scope of the professional guarantor´s responsibilities towards the National Bank of Slovakia, towards the independent financial agent or the financial advisor.

3 LEGAL ENVIROMENT EFFECITVE FROM JANUARY 1ST, 2016 – THE PROFESSIONAL GUARANTOR OF THE INDEPENDENT FINANCIAL AGENT/FINANCIAL ADVISOR

In accordance with the legislation a professional guarantor can be characterized as a natural person who pursuant to legislative demands on its activities, in particular the professional qualifications, ensures the proper performance of financial intermediation or financial advisory. Since this position is linked with responsibility for financial intermediation or financial advisory, the legislator, in our view rightly, secured in the regulatory frame that the

[9] Article 11 of the Labour Code
[10] Article 9 (4) of the Labour Code

professional guarantor is authorized to operate this function only for one independent financial agent, respectively only for one financial advisor at the same time. The Amendment has introduced legal certainty regarding the legal relationship between the independent financial agent, the financial advisor and the professional guarantor. The basis for their co-operation can be a labour - law relation or a business - law relation. The legislator is providing to subjects the right to choose one of the legal relationships.[11]

3.1 A labour – law relation between the professional guarantor and the independent financial agent/financial advisor

The labour - law relation is different from other legal relations, the employee has a personal subordination and dependence towards the employer (Kropaj 2016, p. 247).

We can say that in recent decades there has been a change. Occupations require often a high qualification and they include demanding working techniques and technologies, which transformed the methods of communication between employees and management and changed the way of subordination; the employer´s right to give directions aiming on the management of the work performance and its specification has nowadays not such a factual or real intensity and this intensity is much the less, about how much more the level of work´s autonomy is higher (Barancová 2015). The Court of Justice of the EU says that an employee is a person who, on subordination to another person personally carries out work for him and gets a reward.[12] The professional guarantor who is carrying out his function on the base of a labour - law relation is unquestionably an employee. However, at the same time we can point out, that the nature of the obligations of the professional guarantor is showing that his subordination to the employer is weakened. It is a logical result of the fact that the professional guarantor is responsible for the performance of financial intermediation or financial advisory. The high level of autonomy is a consequence of legal duties, for example the monitoring of the situation within the independent financial agent or financial advisor and also the reporting to the National Bank of Slovakia requires a low level of subordination.

3.2 A business – law relation between the professional guarantor and the independent financial agent/financial advisor

As an alternative to the labour-law relation, the legislator provides the possibility of a business - law relation between the professional guarantor and the independent financial agent

[11] Article 4 (Letter l) of the Act
[12] C-415/93 (Bosman) from December 15th, 1995

or the financial advisor. In this context, we would like to mention some selected aspects of the Act No 513/1991 Coll. Commercial Code as amended (hereinafter „Commercial Code"), specifically of the second part (business companies, partnership and co-operatives) and of the third part of the Commercial Code (business contractual relations). Firstly, we would like to draw attention to the second part of the Commercial Code. The independent financial agent or the financial advisor can choose from the legal forms of business companies provided by the Commercial Code. The relationship between a company and its partner or a member of its statutory organ or other organ is a commercial – law relation. In arranging issues of the company, on the relation between a company and its partner the provisions of a mandate agreement shall be adequately applied.[13] By appointing or electing members of the statutory organ or other organ a relationship sui generis is being created between them and the company; this law relation is not nominated and the Commercial Code stipulates that the provisions of the mandate agreement are going to be applied adequately (Ovečková et al. 2005). It is therefore possible, that a partner of a company or a member of company's organ may perform the activity of a professional guarantor on the base of an innominate contract which essential elements approximate to the mandate agreement. We also would like to focus on the term "arranging issues of the company". The legislator does not provide a legal definition of this concept. This is a logical consequence of the multifarious activities of companies in practice. Can be the function of the professional guarantor and his duties subsumed under the term "arranging issues of the company"? The Act places on the independent financial agent and on the financial advisor (legal persons) the duty to indicate their scope of activities in the Companies Register.[14] The object of activities of these companies is unquestionable financial intermediation or financial advisory. If it is their scope, then it is logical, that the fulfilling of duties arising from the Act means the arranging of the company´s issues. As we have already mentioned, the creation of the professional guarantor´s function is compulsory for independent financial agents, financial advisors – legal persons. Therefore way can say, that it is possible to subsume the professional guarantor´s function and his duties under the term "arranging issues of the company".

Secondly, we would like to point out some aspects of the third part of the Commercial Code. The legislator enables the professional guarantor also to act upon a business contractual

[13] Unless a contract on performance of a function, if concluded, or the law sets the rights and duties differently. Article 66 (3) of the Commercial Code.

[14] A licence to pursue the activity of an independent financial agent and a licence to pursue the activity of a financial advisor shall expire provided that the independent financial agent or the financial adviser has not submitted a motion for the entry of financial intermediation or financial advisory in the Companies Register within three months after the granting of the licences. Article 19 (1) of the Act

relation with the independent financial agent or the financial advisor. As a cooperation platform particularly the mandate agreement can be chosen in practice. A mandate agreement is a consensual contract under which the mandatary undertakes to arrange at the mandant´s expense and for a reward, a specific business matter by performing legal acts on behalf of the mandant or by conducting other activity and the mandant undertakes to pay him fee (Ovečková et al. 2013).

A commercial - law relationship has a fundamentally different nature in comparison with the labour - law relationship. In particular, it lacks the subordination of the employee towards the employer.

3.3 The duties of the professional guarantor

The professional guarantor of the independent financial agent and of the financial advisor is responsible for several activities, his duties can be divided into several fields and include in particular:

- *Control* - the professional guarantor is monitoring the work of employees who carry out financial intermediation or financial advisory; the Act also states his responsibility for taking measures to remedy the deficiencies occurred when performing these activities;
- *Information support* - a guidance and help to employees who carry out financial intermediation or financial advisory, this duty is based on the knowledge and skills of the professional guarantor as a team leader providing assistance to employees when fulfilling the obligations set for them by the Act;
- *Inner inspection covering the area of checking and handling of complaints* - the complaints concern the services of the independent financial agent or of the financial advisor and must be solved in accordance with Article 26 of the Act;
- *Duty to inform the supervisory body* - one of the essential functions of the professional guarantor is the duty to inform the supervisory body (the National Bank of Slovakia). In the sector of financial intermediation and financial advisory exist in particular two basic fields of reporting which are anchored in the Decree of the National Bank of Slovakia of May 27th, 2014 No 10/2014 on content, structure and method of reporting executive employee in financial intermediation and financial advisory and in the Decree of the National Bank of Slovakia of March 11th, 2014 No 4/2014 on report on the implementation of financial intermediation and report on the implementation of financial advisory. In this context we would like to mention that this secondary

legislation still isn´t reflecting on the new term "professional guarantor", but uses the old term "executive employee", so an amendment due to changes of terminology can be expected.

CONCLUSION

The establishment of the function of a professional guarantor in the organizational structure of independent financial agents and financial advisors - legal persons is mandatory. Until December 31st, 2015 the Act operated with the concept of the executive employee of the independent financial agent and of the financial advisor. The Act lacked an explicit reference to provisions of the Labour Code. Meaning the legislator did not specify expressly that there must be a labour - law relation between the executive employees and independent financial agents, respectively financial advisors. At the same time, the legislator did not explicitly prohibit the existence of business - law relation between the executive employees and independent financial agents or financial advisors. In practice, in accordance with the principle of what is not prohibited by law is permitted, natural persons operating as executive employees of independent financial agents, respectively financial advisors, carried out this function on a business - law relation. As a result of this practice, natural persons acting as executive employees of independent financial agents, respectively financial advisors were not employees in accordance with Labour Code. They also did not fulfil the features of the legal definition of the term executive employee in accordance with Labour Code. There existed legal uncertainty regarding the legal relation between the independent financial agent, respectively the financial advisor and his executive employee. Legal certainty rose from the Amendment. From January 1st, 2016 the term executive employee had been replaced by the term professional guarantor. The Amendment has also introduced legal certainty regarding the legal relationship between the independent financial agent, the financial advisor and the professional guarantor. The basis for their co - operation can be a labour - law relation or business - law relation.

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High-Performance Jobs in Agriculture as Sustainable Development Factor of Russian Regions

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Abstract: The aim of the article is to present the findings of the research which involved empirical analysis of regional specifics of creating high-performance jobs (HPJ) in the agriculture of the Russian Federation. Productivity growth in the agrarian sector of Russia has been under discussion among Russian experts recently. High labor input factor of agricultural production alongside with invariably low wages leads to attempts to seek for reserves of higher labor efficiency and to develop methods of creating HPJs. During our research methods of multidimensional classification, analysis and synthesis; comparative, statistic and cluster analysis were used. The research included several stages. First, dynamics and structure of HPJs in the Russian agrarian sector were studied. Second, HPJ concentration in agriculture was measured. Third, cluster analysis of the RF regions that implemented different behavior patterns while creating HPJs was made. And finally, parameters that adequately characterize the productivity of jobs were worked out. The results of empirical analysis indicate that the process of creating HPJs is reversible, their allocation in regions is uneven and there is significant interregional differentiation in HPJs spatial allocation. By applying cluster analysis, ten groups (clusters) of regions were identified. They employ different behavior patterns while creating HPJs in the agrarian sector. The research proved the necessity to design parameters that can adequately characterize the productivity of jobs in various farm categories in Russia. Further empirical research may include the application of econometric model to prove the impact of HPJs number on sustainable development of the Russian agrarian sector.

Keywords: agriculture, high-performance jobs, regions of Russia, labor productivity, wages, agrarian policy

JEL Classification codes: R58, J43, Q18

INTRODUCTION

The agrarian sector of Russia has been operating under rather complicated conditions: The economical and political instability caused by the world economic crisis, against Russia initiated by the USA, EU countries, Australia, Canada and Norway, as well as reciprocal embargo sanctions to deliver agriculture products, raw materials and food from these countries require reconsidering agriculture policy and implementing the concept of import substitution (Lipkovich 2016; Ushachev 2016; Smutka et al. 2016).

In 2016 the Russian agrarian sector reoriented from import substitution to stimulating export of agriculture products and foodstuffs, which is now the next driver of the agrarian sector

productivity growth. Consequently, the need to increase agricultural production in Russia arose.

Despite of federal programs to support the agrarian sector of the economy, real investments into agriculture are still insufficient for the sector's efficiency growth (Semin et al. 2015, p. 5).

Therefore, sustainable development of the agriculture in Russia and assurance of its competitiveness in the world food market demand higher effectiveness of agricultural production.

Agricultural production in Russia requires a high labor input, while wages in the sector are below average: in 2012 – 2015 they amounted to 53-58% of average wages in Russia. The analysis of average gross value added in the sector shows that labor productivity in aggregate economic activity of agriculture, hunting and forestry is over 5 times below average in the economy. Thus, the gap between hourly output in mining operations and agriculture is 40 times (in 2010 it was 43.3 times) (Mikheyeva 2015, pp. 94-95).

Thus, searching for reserves to raise labor efficiency and developing methods to create high-performance jobs (HPJs) in the agrarian sector have become topical.

Nowadays the influence of embargo and sanctions put on agricultural and food markets of Russia, EC and other countries in 2014 (see Borodin 2015; Kraatz 2014; Kutlina-Dimitrova 2015; Smutka et al. 2016), as well as the comparative efficiency of the Russian agricultural production (Korotchenya 2016) are being actively studied.

Most of Russian research is devoted to analyzing jobs movement and qualitative evolution of jobs structure in economy (Gimpelson et al. 2014; Gimpelson & Kapeliushnikov 2016), by identifying and recording high-performance jobs (Volkova & Romanyuk 2015; Kuznetsov & Korovkin 2015), dynamics of HPJs creation in regions (High-performance jobs…, 2013) or specifics of their development in some sectors (Kalacheva & Savon 2014; Smirnykh et al. 2016b). At the same time, there is practically no empirical research aimed at systemic study of peculiarities of creating HPJs in agriculture and modernizing them in the agrarian sector.

The aim of the research is to explore the regional specifics of creating high-performance jobs (HPJ) in the agriculture of Russia. Taking into account the vast territory of Russia and its heterogeneity we assume that Russian regions are highly differentiated in their labor productivity and the number of HPJs.

1 MATERIALS AND METHODS OF THE RESEARCH

To identify the regional peculiarities of creating high-performance jobs in the agriculture of Russia we sequentially completed the following research tasks:

- analyzed the structure and dynamics of creating high-performance jobs in the agriculture of the RF;
- evaluated concentration and spatial allocation of creating high-performance jobs in the Russian regions;
- highlighted and characterized the behavior patterns of the Russian regions while creating HPJs;
- proposed the matrix of the Russian regions behavior patterns while creating HPJs and identified the regional policies to stimulate labor productivity growth in the Russian agrarian sector.

It is important to emphasize that productivity growth has been under discussion among Russian experts recently. Although, there is no common understanding of HPJ term (Kuznetsov & Korovkin 2015, p. 116).

Actually there is a number of disconnected criteria to define HPJs of both quantitative and qualitative character (High-performance jobs…, 2013; Kalacheva & Savon 2014; Kokoulina 2013; Bloom & Van Reenen 2010; Huselid 1995).

This paper is based on the calculation methodology of defining the number of high-performance jobs developed by the Federal State Statistics Service of Russia. According to it, HPJs are "all the jobs filled by a company or an organization, where the average wage is equal to or higher than the stated threshold amount (Calculation method…, 2013).

To complete the research tasks, we used the methods of multidimensional classification, comparative, statistic and cluster analysis alongside with matrixing.

To evaluate the interregional differentiation of HPJs number we calculated concentration indicators (concentration coefficient, Herfindahl-Hirschman Index) and statistic indicators to estimate unevenness of allocation (average variance, standard deviation, variation coefficient).

The behavior patterns of the Russian regions while creating HPJs in the agrarian sector were determined with the help of cluster analysis of 84 subjects of the Russian Federation (Nenets, Khanty-Mansi and Uamalo-Nenets Autonomous Okrugs were considered as separate regions; St Petersburg was excluded from the analysis due to unavailable official statistics on its agricultural production output).

In the previous paper (Smirnykh et al. 2016a) five behavior patterns of the Russian regions while creating HPJs were singled out and interpreted. We widened the list of clusterization indicators and normalized the initial data to make their measurement more homogeneous. We conducted cluster analysis using «STATISTICA 10» software (k – means clustering method).

2 RESEARCH RESULTS AND DISCUSSION

Creating 25 million of high-performance jobs (HPJs), or high-technology jobs by 2020 is one of the main strategic guidelines of Russia's economic development (Medvedev 2013). According to the official statistics, by the beginning of 2016 there were created 16.8 million high-performance jobs (Tab. 1), which accounts only to 67% of the target.

The table vividly demonstrates the reversible character of HPJs numbers and the low share of agriculture (below 2%) in their creation. The number of HPJs in agriculture decreased by 13.6%, showing a quicker reduction rate compared to the Russian economy in general (9.2%).

Tab. 1: High-performance jobs structure by economic sectors in 2012-2015

Economic sector	HPJs, thousand				HPJ Structure, %			
	2012	2013	2014	2015	2012	2013	2014	2015
Agriculture, Hunting and Forestry	294.0	333.8	368.2	318.2	1.80	1.91	2.01	1.90
Fishing and Fish Farming	31.1	33.5	33.0	32.2	0.19	0.19	0.18	0.19
Mining	841.2	878.1	852.1	854.1	5.14	5.02	4.66	5.09
Manufacturing	3483.1	3670.8	3722.9	3333.9	21.28	20.98	20.36	19.87
Utilities	888.7	910.1	998.6	926.8	5.43	5.20	5.46	5.52
Construction	1021.7	1046.3	1028.0	871.9	6.24	5.98	5.62	5.20
Wholesale and Retail; Automotive Repair and Household Goods Repair	1375.2	1479.2	1609.4	1548.5	8.40	8.46	8.80	9.23
Hotels and Restaurants	107.2	112.8	124.3	92.2	0.65	0.64	0.68	0.55
Transport and Communications	1612.5	1632.9	2092.8	1787.7	9.85	9.33	11.45	10.65
Financial Services	1006.8	1064.4	949.9	907.6	6.15	6.08	5.20	5.41
Real Estate	1762.4	1956.4	2070.5	1849.2	10.77	11.18	11.33	11.02
Public Admin and Defence; Social Insurance	2428.2	2518.6	2458.9	2307.4	14.83	14.40	13.45	13.75
Education	558.5	721.6	782.0	786.9	3.41	4.13	4.28	4.69
Health and Social Care	740.6	891.8	916.8	907.8	4.52	5.10	5.01	5.41
Community, Social and Personal Services	218.2	242.5	273.8	258.0	1.33	1.39	1.50	1.54
Whole Economy	16369.4	17492.8	18280.9	16782.4	100.00	100.00	100.00	100.00

Source: Federal State Statistics Service of Russia (2016).

The reasons for low number of HPJs in agriculture can be low wages in the sector, inadequate technical equipment of agriculture and a large amount of population-owned households. The latter do not have official institutional shape, but they produce 40% of agricultural produce (Federal State Statistics Service of Russia 2016).

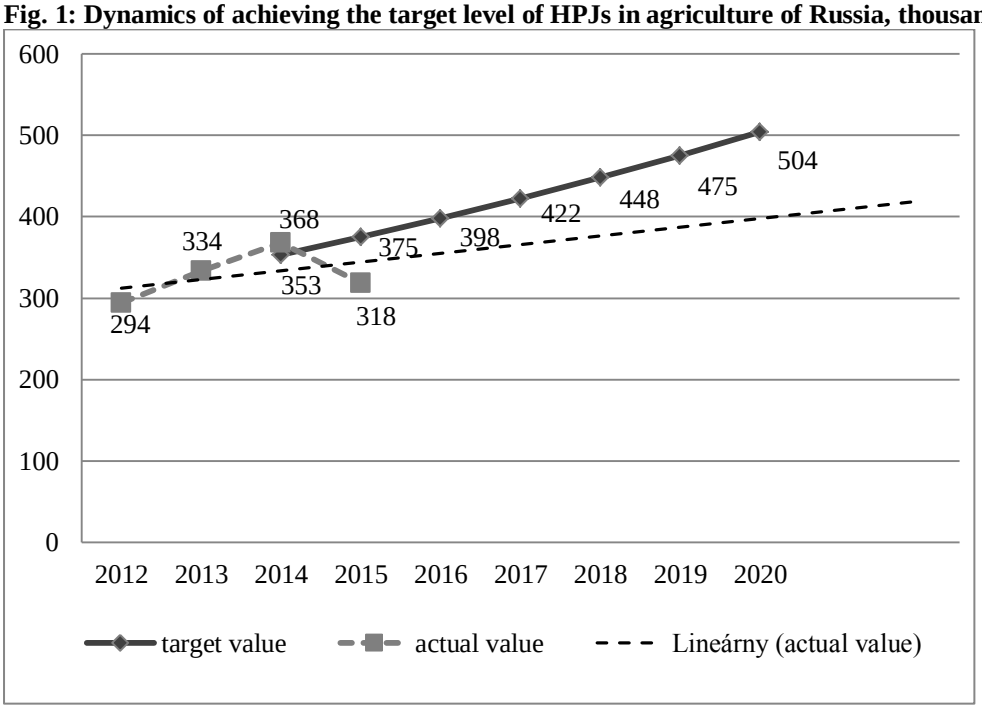
Households are aimed at "self-sufficiency" and small-scale production of agricultural products. As a result, there is a large proportion of agricultural production with low value added, produced by using mainly manual labor and primitive technologies and minimal mechanization. This all decreases competitiveness of the Russian agrarian sector in the world food market (Svatoš et al. 2014).

According to System of National Accounts (SNA), "every self-employed has a job" (Gimpelson et al. 2014, p. 94). But the Russian statistical service does not count population-owned households as filled jobs, so they cannot be attributed to HPJs in the Russian agriculture.

Reduction of fleet and high level of agricultural machinery wear and tear can be explained by small share of investment into machines and equipment in total amount of investment (13.5% in 2014 compared to 22.7% in 2008) (Trubina 2016).

According to "The State Program of Agriculture Development and Regulation of Agricultural Production Markets, Raw Materials and Food Supply for 2013-2020", by 2020 there should be created 504.2 thousand HPJs in the agrarian sector of Russia. However, if the current dynamics continues (linear trend in Fig. 1), about 400 thousand HPJs will be created in agriculture by 2020.

Fig. 1: Dynamics of achieving the target level of HPJs in agriculture of Russia, thousand



Source: Ministry of Agriculture of the Russian Federation 2016

To evaluate the level of interregional differentiation of HPJs in agriculture, we calculated the concentration indicators (see Tab. 2).

Tab. 2: Evaluating HPJs concentration and unequal allocation in agriculture by regions of Russia

Indicator	Total RF economy			Agriculture, hunting and forestry		
	2013	2014	2015	2013	2014	2015
Concentration ratio (CR), % - of 3 largest regions	19.93	20.12	20.40	20.87	20.46	24.39
- of 4 largest regions	23.63	23.69	23.95	25.16	24.56	29.04
- of 10 largest regions	33.46	38.85	38.80	46.12	44.86	47.95
- of 25 largest regions	59.45	64.78	64.51	73.13	73.96	76.39
Herfindahl-Hirschman Index (HHI) , %	291.68	282.94	283.62	323.52	319.11	372.25
Regions' share average variance (in total number of HPJs)	1.4233	1.4214	1.3551	2.4812	2.4281	2.9953
Standard deviation, %	1.193	1.192	1.164	1.575	1.558	1.731
Variation coefficient, %	99.02	98.95	98.95	130.74	129.33	147.11
For reference: Gross regional product concentration (HHI, %)	636.42	632.29	no data	---	---	---
Agricultural production concentration (HHI, %)	---	---	---	245.92	239.38	242.30

Source: Federal State Statistics Service of Russia 2016, calculated by authors

The results of evaluation indicate substantial interregional differences in HPJs spatial allocation in the agrarian sector. Thus, concentration of HPJs in the agriculture of Russia's 10 largest regions accounted to 48%, while this indicator in the whole of economy is only 39%. We should note that unequal allocation of agricultural production in the regions is by 35% lower (HHI=242%) than HPJs concentration. Consequently, the number of HPJs in the sector depends not only on the agrarian sector development in the region, but on other factors as well.

To find out the regional specifics of creating high-performance jobs (HPJ) in agriculture and modernizing them we carried out clusterization of RF subjects according the following parameters: number of HPJs in agriculture; share of HPJs created in agriculture, in total number of HPJs in the region, % (it indirectly characterizes the region's industrial structure); region's share in agricultural production in RF in all households categories (it confirms the region's contribution into agricultural production of the country and reflects its "sectoral specialization"); contribution of organizations into agricultural production of the region (it shows the degree of agribusiness concentration in the region); share of population-owned households in agricultural production of the region, % (it enables to evaluate the degree of agriculture institutionalization in the region); share of farm households in agricultural production of the region, % (it reflects entrepreneurial climate); unemployment rate by RF subjects, average, during the year, % (it characterizes the condition of local labor markets); share of crop and animal production in region's agriculture, % (it enables to estimate the specialization of the region).

The choice of parameters is based on the available statistical data that reflect the specifics of agricultural development in the regions of Russia in 2015.

We carried out preliminary analysis (treelike clusterization) and empirical tests with "STATISTICA 10" software product. So we singled out 10 clusters which are characterized by different behavior models while creating high-performance jobs in agricultural sector. In Table 3 we calculated average values of wages and labor productivity to evaluate labor efficiency in the indicated clusters. After generalizing results of our calculations we can describe the following clusters of regions, which implemented various behavior models when creating high performance jobs in agriculture.

Cluster 9: Regions "Leaders" in agricultural production (Belgorod Oblast, Tambov Oblast and Stavropol Krai).

Distinctive features of this cluster's regions are maximum of high performance jobs created in agriculture (13 % higher than total number of HPJs in the region). All regions of this cluster demonstrate growing numbers of HPJs in agriculture: by 14.2% in Belgorod Oblast, by 19.4% in Tambov Oblast and by 28.7% in Stavropol Krai (in comparison with 2013). This cluster has high concentration of agricultural production in organizations (over 72%) and minimal share of population-owned households and farm households.

Regions "Leaders" in agricultural production are characterized by relatively high labor productivity and high wages in the sector: hourly output is above average in Russia by 76 %, and wages by 14.6%. In Stavropol Krai the labor efficiency is near the average value in Russia.

Cluster 2: "Leading" agricultural regions (Altai Krai, Krasnodar Krai, Volgograd Oblast, Voronezh Oblast, Rostov Oblast and the Republic of Tatarstan). Their agriculture is traditionally developed with prevalent crop production (63.2%). Only in Tatarstan animal production insignificantly exceeds crop production (51%).

Regions of this cluster have considerable amount of high performance jobs in agriculture and their share in the total amount of HPJs in the region is sizeable (about 2.8 %). In Altai Krai, Voronezh Oblast and Rostov Oblast the share of HPJs in agriculture is higher and amounts to over 4%.There are 18.2% of HPJs of the sector. The regions of the cluster produce 27% of agricultural production in the country. Agricultural production is produced nearly equally in agricultural organizations (45%) and population-owned households (39%).

Tab. 3: Russian Federation regions typology by creating and modernizing HPJs in agriculture (2015)

Parameters of comparison	Clusters Titles									
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Cluster 9	Cluster 10
Local labor market condition										
Unemployment rate (average, during the year), %	5.88	5.79	5.85	4.31	7.13	5.15	22.07	9.82	4.78	7.17
Region's significance in agriculture production										
Region's share in agricultural production in RF, %	1.08	3.86	1.01	1.38	0.38	0.03	0.19	0.57	3.43	0.38
Agriculture production structure (by farms and households categories)										
Share of agricultural organizations in production, %	43.40	45.08	65.16	58.69	33.94	80.63	9.31	18.30	72.30	18.58
Share of farm households in production, %	8.46	16.04	4.39	9.07	4.48	0.61	14.01	17.66	8.77	32.14
Share of population-owned households in production, %	48.13	38.87	30.45	32.24	61.59	18.76	76.67	64.03	18.93	49.29
Prevailing field of agriculture										
Share of crop production, %	49.06	63.23	36.35	63.42	63.60	6.87	26.17	29.41	54.13	63.48
Share of animal production, %	50.94	36.77	63.65	36.58	36.40	93.13	73.83	70.59	45.87	36.52
HPJs creation in agriculture										
Share of HPJs created in agriculture, in total number of HPJs in the region, % (number of HPJs in agriculture)	1.15 (2109.5)	2.82 (8257.1)	2.95 (4112.4)	4.18 (6200.0)	1.29 (1450.0)	0.29 (76.7)	0.45 (90.0)	0.83 (422.2)	13.56 (24966.7)	0.77 (351.67)
Aggregate results of clusters[1]										
Aggregate agriculture production, mln roubles (share, %)	1146463.1 (22.76%)	1362651.6 (27.03%)	860875.9 (17.09%)	627665.7 (12.46%)	116162.2 (2.3%)	4.1 (0.08%)	29334,4 (0.58%)	257307.2 (5.1%)	517900.2 (10.28%)	113638.9 (2.26%)
Aggregate number of HPJs in agriculture, thousands (share, %)	44.3 (13.92%)	57.8 (18.16%)	69,91 (21.97%)	55.8 (17.54%)	8.7 (2.73%)	0.23 (0.07%)	0.27 (0.08%)	3.8 (1.2%)	74.9 (23.54%)	2.11 (0.66%)
Labor efficiency in the agriculture of the Russian Federation (in indicated clusters)[2]										
Average monthly wage of agricultural organizations workers, roubles per person[3]	19034	20011	21853	25509	20356	29570	9552	13401	24777	17801
Hours worked in a week at one job (2014), on the average (per 52 weeks a year)[4]	21.9	24.0	22.1	22.8	21.4*	27.6	22.0	21.8	24.2	26.8
Agricultural output at one job, thousand roubles[5]	137.5	265.4	167.8	296.9	92.0*	417.3	154.7	148.0	370.8	220.4
Agricultural output in an hour, roubles[5]	120.6	212.9	146.0	250.0	82.7*	290.4	135.2	130.8	294.8	158.4

Source: calculated by authors

Notes: [1] Numbers were calculated as overall results in each indicated cluster, [2] Calculated by authors as mean value by clusters, [3] Data for 11 months of 2015. Source: Information system "SPARK-Interfax (2016), [4] Calculated by authors according to Rosstat's data, [5] Calculated by authors as ratio of agricultural output (for all household categories) in actual prices of 2015 to number of jobs / actual hours worked in 2014; * We calculated mean values for Cluster 5 without Crimean Federal District

Krasnodar Krai is special in this cluster, as it produces 6.6% of agricultural production of Russia. The region lost its "Leader's" position because the number of HPJs in agriculture decreased dramatically (from 19.4 thousand in 2013 to 4.1 thousand in 2015). "Leading" agricultural regions combine high labor productivity and average (or below average) wage. This fact indicates that social and economic position of the region influences the wages more than labor efficiency.

So, Clusters 9 and 2 form a group of regions that implement the most effective behavior pattern while creating HPJs in the Russian agriculture. The following group of regions (Clusters 4 and 3) is highly active in creating HPJs in the agrarian sector, but they are holding "average" positions in relative contribution of regions into Russia's agricultural production.

Cluster 4: High performance agricultural production regions includes 9 regions (their list is in Appendix). The regions of this cluster have a significant amount of HPJs (about 6,200) in agriculture. Agricultural production is carried out by mainly by organizations (58%) and population-owned households (32%). High wages and high labor productivity are characteristic for the regions of this cluster.

Cluster 3: "Non-core" regions with institutionalizing service-type agricultural production (see Appendix). In the economic structure of these regions there is one sector dominating in industry or several sectors dominating in trade, service and construction. Agriculture is developing there as a "support" or "backing" sector ensuring food independence of the territories. The regions of the cluster have a considerable amount of high-performance jobs in agriculture, with animal production prevailing (63.7%). Cluster 3 is characterized by a sizeable differentiation of wages and labor productivity in agriculture.

The third group of regions consists of Clusters 1 and 5, which are moderately active in creating HPJs in the agrarian sector.

Cluster 1: "Non-core" regions with traditional service-type agricultural production includes 21 subjects of the Russian Federation (their list is in Appendix). The key difference of Cluster 1 is predominance of the "traditional" way of organizing agricultural production as population-owned small holdings (48%). In the regions of the Cluster there is an average amount of HPJs in agriculture and even development of crop and animal production. In Cluster 1 wages in agriculture are below average in the sector by 12%, and labor productivity is low in most of the Cluster's regions (except for Kaluga, Kaliningrad, Tyumen and Samara Oblasts).

Cluster 5: Low performance agricultural production regions are characterized by an insignificant amount of HPJs in agriculture. In 2015 the regions of the Cluster produced 2.3%

of Russia's agricultural production (contribution of each region is below 0.4%). The Republic of Crimea is an exclusion, its contribution is 1.23%. The production is carried out mainly by population-owned small holdings (61.6%). Crop production prevails (63.6%). Cluster 5 is characterized by a high differentiation of wages and low labor productivity in agriculture (in 2015 hourly output amounted to 50% of the average level in the sector).

Clusters 6, 7, 8 and 10 represent regions with underdeveloped agriculture (e.g., because of unfavorable climate) and regions with low efficiency agriculture. Therefore the regions of these Clusters demonstrate a "passive" behavior model while creating HPJs in the agrarian sector.

Cluster 8: "Lagging" animal production regions with underdeveloped or low performance agricultural production is characterized by high employment rate (over 9.8%) and an insignificant amount of high-performance jobs in agriculture. The Republic of Dagestan makes the most substantial contribution into Russia's agrarian production (1.98%). The distinctive feature of the Cluster is the leading role of population-owned households in producing agricultural products (64%). Low labor efficiency is characteristic of the Cluster's regions.

Cluster 10: "Lagging" crop production regions with underdeveloped or low performance agricultural production

The regions of the Cluster have a relatively high unemployment rate of 7.17% (excluding northern regions of Magadan Oblast and Khanty-Mansi Autonomous Okrug). Agricultural production is mostly produced by population-owned households (49.2%) and farm households (32.1%). Labor productivity in the regions is average, while wages are low. High wages can be found only in northern regions with unfavorable climatic conditions.

Cluster 7: "Outsider" regions in agricultural production (Republic of Ingushetia, Republic of Tyva, Chechen Republic). The key characteristic of these regions is low social and economic development due to insufficient mobility of population, economic stagnation, high unemployment rate, complicated political situation, underdeveloped infrastructure and social sphere. "Outsider" regions have minimum of high-performance jobs in agriculture. In the agrarian sector of the Cluster animal production prevails (73.8%). Small share of agricultural organizations in total production (9.3%) leads to insignificant number of HPJs created in agriculture of these regions. Despite of the importance of the agrarian sector in the structure of the regional economy, the Cluster's contribution into Russia's agricultural production is only 0.6%. "Outsider" regions have low wages in agricultural organizations (40-48% of the average rate in the sector) and low labor productivity.

Cluster 6 "Extreme" agriculture regions (Nenets Autonomous Okrug, Chukotka Autonomous Okrug and Yamalo-Nenets Autonomous Okrug). Severe climatic conditions cause animal production prevalence in the structure of the agrarian sector (93%). The number of high-performance jobs created in agriculture of these regions is minimal. Agricultural production is mostly produced by agricultural organizations (80.6%). The Cluster's regions all together produce below 0.1% of Russia's agricultural production. In the Cluster's regions the wages and labor productivity in agriculture are high (due to high income per capita in these regions). Preliminary results of the research enabled us to build the Matrix of regions' behavior patterns while creating HPJs in the agrarian sector (Fig. 2).

Fig. 2: Matrix of regions' behavior patterns while creating HPJs in the agrarian sector

Amount of HPJs created in agriculture **				
high (over 2%)		***Cluster 4*** ***Cluster 3***	***Cluster 9*** ***Cluster 2***
average (1-2%)	***Cluster 5***	***Cluster 1***	
low (below 1%)	***Cluster 8*** ***Cluster 10*** ***Cluster 7*** ***Cluster 6***		
	low (below 1%)	average (1-2%)	high (over 2%)
	Region's significance in agricultural production*		

Source: authors

* It is identified by region's share in producing the agricultural production in RF, %.

** Evaluation criterion is the share of HPJs created in agriculture, in total number of region's HPJs, %.

In our opinion, the effective agrarian policy should take into account the specifics of agricultural development of the Russian regions, including behavior patterns of the regions while creating HPJs in the agrarian sector.

CONCLUSION

So, labor productivity growth and the creation of high-performance jobs in the Russian agrarian sector is restrained by socio-economic and institutional specifics of its functioning. Specific features of the Russian agriculture (high labor input, relatively low wages, insufficient technical equipment and a significant amount of population-owned households)

mostly correspond to the trends of the EU agrarian sector development (see Gindele et al. 2016).

Evaluation of high-performance jobs concentration in the agriculture of the Russian Federation indicates the growth of interregional differentiation in HPJs spatial allocation. However, the supposition that HPJs concentration in the agrarian sector depends, first of all, on agricultural production maturity in the region was not confirmed. Therefore, detailed research of factors having impact on the number of HPJs in the agriculture of the Russian regions should be conducted.

By applying cluster analysis, ten groups of regions were identified. They employ different behavior patterns while creating HPJs in the agrarian sector. The matrix (figure 2) dividing all the clusters into four groups was built to determine the policy type to stimulate HPJs creation in the agrarian sector of Russia.

For regions of the first group (Clusters 2 and 9) the agrarian policy should be aimed at active developing of the export potential on the world food market. This export-oriented policy should be pursued by enhancing the efficiency of the agrarian production.

In relation to the second group of regions, "Leaders' Challengers" (Clusters 4 and 3), it is reasonable to pursue active policy of increasing the productivity of the agrarian sector by stimulating growth of production concentration in large agricultural organizations, by developing farm households, by upgrading mechanization and equipment of the agrarian production, etc.

Regions of Clusters 1 and 5 require selective agrarian policy, which should take into account the specifics of their socio-economic development, their climatic conditions and environment, and the established structure of their agricultural production.

As for regions of the "problem" group (Clusters 6, 7, 8 and 10), they need inside-oriented (adaptive and/or passive) policy, including stimulating traditional agriculture sectors and achieving relative food independence of the regions.

Under current conditions the agriculture of Russia becomes the driver of the sustainable growth of the national economy. In 2010-2015 agricultural production output increased 2.2 times, and after embargo and sanctions were put it increased by 68.5%. Labor productivity in agriculture grew steadily by 7.5% every year in 2010-2015. In 2015 the agrarian sector was the only economic sector that demonstrated labor productivity growth (105% in comparison with 2014).

Implementing the agrarian policy that has been adapted to interregional specifics in Russia will help to stimulate further efficiency growth in the sector and optimize budgetary costs.

The perspectives of our future research can be the following:

First, choosing the parameters to measure adequately the productivity of jobs in different types of households of the agrarian sector. In our opinion, a holistic interpretation of a high-performance job includes: a technological component (potential of equipment productivity), a labor component (quality of human capital), an economic-organizing component (quality of worker's human capital), an institutional component (set of norms and regulations written in the contract, ensuring that a worker performs certain functions);

Second, developing and testing econometric model to evaluate the impact of creating HPJs in agriculture on sustainable development of Russia's regions.

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APPENDIX

Clusters by Regions

Cluster Number and Title	Subjects of the Russian Federation in the Cluster
1. "Non-core" regions with traditional service-type agricultural production	Ivanovo Oblast, Irkutsk Oblast, Kaliningrad Oblast, Kaluga Oblast, Kemerovo Oblast, Kostroma Oblast, Kurgan Oblast, Nizhny Novgorod Oblast, Omsk Oblast, Orenburg Oblast, Samara Oblast, Smolensk Oblast, Tomsk Oblast, Tyumen Oblast, Ulyanovsk Oblast, Kamchatka Krai, Krasnoyarsk Krai, Perm Krai, Primorsky Krai, Republic of Bashkortostan, Chuvash Republic
2. "Leading" regions with developed agricultural production	Altai Krai, Krasnodar Krai, Volgograd Oblast, Voronezh Oblast, Rostov Oblast, Republic of Tatarstan, Saratov Oblast
3. "Non-core" regions with institutionalizing service-type agricultural production	Bryansk Oblast, Vladimir Oblast, Vologda Oblast, Kirov Oblast, Leningrad Oblast, Murmansk Oblast, Novgorod Oblast, Novosibirsk Oblast, Pskov Oblast, Sverdlovsk Oblast, Tver Oblast, Chelyabinsk Oblast, Yaroslavl Oblast, Komi Republic, Mari El Republic, Republic of Mordovia, Udmurt Republic
4. High performance agricultural production regions	Kursk Oblast, Lipetsk Oblast, Oryol Oblast, Penza Oblast, Ryazan Oblast, Tula Oblast, Moscow Oblast, Moscow, Amur Oblast
5. Low performance agricultural production regions	Arkhangelsk Oblast, Sakhalin Oblast, Khabarovsk Krai, Republic of Karelia, Republic of Crimea, Sevastopol
6. "Extreme" agriculture regions	Nenets Autonomous Okrug, Chukotka Autonomous Okrug, Yamalo-Nenets Autonomous Okrug
7. "Outsider" regions in agricultural production	Republic of Ingushetia, Republic of Tyva, Chechen Republic
8. "Lagging" animal production regions with underdeveloped or low performance agricultural production	Zabaikalsky Krai, Republic of Altai, Republic of Buryatia, Sakha Republic (Yakutia), Republic of Kalmykia, Republic of Khakassia, Karachay-Cherkess Republic, Republic of Dagestan, Republic of North Ossetia (Alania)
9 Regions "Leaders" in agricultural production	Belgorod Oblast, Tambov Oblast, Stavropol Krai
10. "Lagging" crop production regions with underdeveloped or low performance agricultural production	Astrakhan Oblast, Republic of Adygea, Republic of Kabardino-Balkaria, Magadan Oblast, Jewish Autonomous Oblast, Khanty-Mansi Autonomous Okrug

The Role of Manufacturing in Central and Eastern EU Member States

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Abstract: A new paradigm of development in the field of manufacturing is the transformation of economic systems in the direction of reindustrialisation. This approach is particularly emphasized in the EU countries which are looking for a long-term comparative advantage in the global economy. The aim of the article is to present the input of manufacturing in Central and Eastern EU Member States (CEEC) in terms of the gross value added, employment and exports. This task requires a proper testing procedure involving characterizing today's megatrends related to manufacturing, determining the share of manufacturing in GDP and employment and analysing changes in the foreign trade of the manufacturing in selected economies. The conducted study allows to identify the dynamics and direction of changes in the analysed fields. The paper uses the descriptive and analytical method, focusing on a review of the literature on the subject and analysis of statistical data of Eurostat, OECD, UNIDO and UNCTAD databases. The study's findings indicate a relatively large role of manufacturing (compared to the EU average) in CEEC, although trends in the analysed countries are not unequivocal.

Keywords: structural change, manufacturing, deindustrialisation, industrial policy

JEL Classification codes: F2, F5, F6, N6

INTRODUCTION

As a result of globalization, the economic interdependence of economies has increased. Additionally the highly globalised world economy is characterized by fragmented value chains. Consequently, the priority objective of economies is to identify the determinants of economic growth and build a permanent comparative advantage in order to meet the growing pressure of international competition. The importance of manufacturing in GDP growth acceleration nowadays remains a debatable issue because most economies (especially advanced) of the world have moved into the post-industrial phase of development. Deindustrialisation is occurring, which is defined as the steady decline of both manufacturing output as a percentage of GDP and of manufacturing employment in total employment.

The aim of the article is to present the input of manufacturing in selected economies of Central and Eastern EU Member States (CEEC) in terms of the gross value added, employment and exports. The analysis covers the European transition economies which joined the EU in 2004 and 2007. The article is structured as follows. The first section analyses

the theoretical framework to characterize today's megatrends related to manufacturing and to understand the relevance of manufacturing in the process of economic development. The second section provides empirical evidence of the importance of manufacturing for CEEC. The third refers to changes in CEEC manufacturing exports and the last section contains conclusions. The study used secondary data collected from Eurostat, OECD, UNIDO and UNCTAD. The study covers the period between 2000 and 2015.

1 LITERATURE REVIEW: IMPACTS OF MANUFACTURING ON ECONOMIC DEVELOPMENT

The dynamic nature of the economic system transformation caused by the technological progress, liberalization of movement of factors of production and the growing position of developing economies dictates new terms of the manufacturing organization. The development and widespread use of technology have modified the scope of manufacturing capabilities of enterprises. As a result, the automation of production, productivity growth and reduced involvement of a human in many phases of the production process is a common occurrence. Instantaneously, dematerialisation of production, i.e. the increasing use of intangible factors in relation to tangible factors is observed. The services sector has grown and this leads to a relative reduction of the importance of manufacturing and its lower participation in national wealth creation (this process is known as the tertiarisation of the economy). However, it is worth saying that the old dichotomy between products and services has been recently replaced by strong interdependence. Due to liberalisation, companies can internationalise their activities and choose the location of investments to optimise manufacturing processes and thus build their competitive advantage. A prevalent trend in this area is the fragmentation of production, which means breaking down the previously integrated process into individual stages that may be located away from each other. Disparities in the level of the socio-economic development of economies stimulate delocalisation processes of production to countries with lower costs. Over the last decades, global manufacturing has shifted from West to East and from North to South. Increased involvement of developing economies determines the development of global value chains, i.e. a series of interrelated activities performed as part of the process of manufacturing the final product (Ulbrych 2016, p. 154-155). These phenomena result in certain consequences in the area of the three-sector structure of the economy and the labour market. The sustained process of structural transformation has reduced the share of industry production in GDP and employment, generally at a high level of economic development. Thus the significance of manufacturing in

economic growth has diminished over recent decades, especially in advanced economies. The statement that manufacturing has declined in importance comes from both empirical evidence and a general overview of the current state of manufacturing in the world. Thus, the curvilinear share of manufacturing in GDP and employment is one of the general features of the structural changes. Nevertheless, the decrease of manufacturing in high-income countries does not mean the same in middle- and low-income countries or a drop in the sector's role to developed economies on value added, productivity and linkages to other sectors (UNIDO 2015, p. 3, 49). Manufacturing typically proceeds an inverted U-shaped trail over the path of development. Such a pattern occurs both in developed and developing countries, but in the second case the turning point arrives sooner and at a much lower level of income. These economies are undergoing deindustrialisation much earlier than the historical norms without a proper experience of industrialisation. Literature defines these observations as premature deindustrialisation (Rodrik 2015, p. 2-3). Deindustrialisation is caused mainly by the changes in the income elasticity of demand for manufactures and services and is a normal process within a capitalist economy. Variation in the income elasticity of demand for manufactured goods opposite services is due to the evolution of income relative to prices as the economy industrialises (Cruz 2015, p. 116). In the long-run, economies have become more service oriented. These patterns have initiated the debate on whether services can become a new growth-enhancing sector.

In this context of the changes observed in the global economy, the main question refers to the impact of manufacturing on economic growth. The literature has widely discussed the role of the manufacturing sector as a driver of growth. This area of research was particularly explored during the first three quarters of the 20th century. Most researchers confirmed the Kaldorian framework which indicates the positive correlation between the national output and the growth of manufacturing output (Kaldor 1967). The special role of manufacturing is due to its dynamic economies of scale which implies that productivity in this sector rises faster than elsewhere. The rest of the economy benefits through the linkages between manufacturing and other sectors of the domestic economy. Increasing productivity is crucial for short- and long-term growth and structural transformation. In effect, growing productivity not only allows the transfer of labour from one sector to another without losing output, but it also strengthens the production of complex goods and services (Cruz 2015, p. 115).

The current debate around the arguments for manufacturing imperative was triggered by the aftermath of the global crisis. Evidence from literature suggests that the engine of growth hypothesis for manufacturing is still justified, especially for developing countries with a

higher level of human capital (Haraguchi 2016, p. 4). From a theoretical perspective, there are commonly given arguments in favour of a strong manufacturing base (Stöllinger et al. 2013, p. 4-10):

- the manufacturing sector is a major source of innovation and technological progress;
- due to the innovation potential of manufacturing, the productivity growth in this sector is higher than in the rest of the economy;
- manufactures are highly tradable whereas this is only true for a subset of services;
- the manufacturing sector is an important source of demand for many services.

Taking into consideration all these features, it is worth mentioning that developing and high-income countries demonstrate wide differences in the way manufacturing drives economic growth. In the first group of countries, impact on the growth derives mainly from capital investment, natural resources and energy, while in the advanced economies it comes from productivity. High-income countries seem to use labour- and resource-saving technology, which allows them to increase output without significantly increasing factors input (UNIDO 2015, p. 3). The key question is how to raise productivity and what is the role of a government in this process. At this point it is worth explaining the essence of the reindustrialisation concept, which traditionally means upgrading industrial production facilities through modernization of existing industries and creation of new industries where a country can gain comparative advantage in the global economy (Manufacturing Studies Board Assembly of Engineering National Research Council 1981). Currently this term is very popular with regard to a policy stimulating economic growth through government efforts in organizing national resources to encourage growth of competitive industries. It requires a rebuilding of the supply side of an economy and fostering investment in the private sector.

The renewed interest in the manufacturing sector as a driver of economic growth is also noticeable in the European Union. One of the initiatives under the Europe 2020 Strategy is the project *An Integrated Industrial Policy for the Globalisation Era. Putting Competitiveness and Sustainability at Centre Stage* (COM (2010) 614 final). Its object is to stimulate growth and create jobs by maintaining and supporting a strong, diversified and low-carbon industrial base. The matter of the concept of industrial policy and a priority importance of the innovative industry for the growth of the EU economy has also been stressed in the EU reindustrialisation strategy, adopted in 2012. It envisages increasing the share of industrial production in the creation of the EU GDP up to 20% (COM (2012) 582 final). Industrial policy reinforcement should be based on four pillars which include the following: stimulating

new investments in technologies and innovations; improvement of the internal market functioning; increased access to financing; promotion of human capital and skills development. This approach centres around improving framework conditions that strengthen the growth potential of EU manufacturing. The role of innovation and technology leadership is emphasized. Stimulating investments needs improvement in proper technical regulations and internal market rules. Providing appropriate framework conditions for investments is particularly desirable in the context of building the EU's advantage, resulting from the fact of the EU being a pioneer and being able to benefit from first mover advantage. These goals are supported by strategic directions set in several EU documents (such as *For a European Industrial Renaissance* COM (2014) 14/2). The EU development towards reindustrialisation signifies the endorsement of structural reforms based on new technologies in manufacturing processes, investments in research and human resources and promoting green energies.

1.1 The Importance of Manufacturing for CEEC and Main Drivers of Manufacturing Growth

More than 25 years ago in Europe's former communist countries began the transformation from centrally-planned economies to market-based democracies. It resulted in their integration into the global economy. Most notable was the reintegration with Western Europe, culminating with the accession of eight former socialist economies in 2004 (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia), followed by Bulgaria and Romania in 2007. All transition countries went through recession in the initial period but in contrast to the turbulence of the 1990s, growth patterns in the early and mid-2000s were strong (IMF 2014). Thus the study covers the period 2000-2015. For the ten countries considered in the research the term catching up or convergence is used and it implies the objective of reaching the average of the EU in socio-economic terms. The theory assumed that, since the poorer economies tend to grow faster than wealthier economies, all economies will converge in terms of per capita income.

Tab. 1: GDP per capita and real GDP growth rate in CEEC (2004-2015)

		Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia
GDP per capita in PPS (EU=100)	2004/2007*	41	78	54	61	46	49	50	43	57	85
	2015	47	87	75	68	64	75	69	57	77	83
Real GDP growth rate 2004/2007*-2015		2.1	2.5	2.5	1.2	2.6	3.1	3.9	2.2	4.0	1.4

*The initial year – the date of accession to the EU

Source: own study based on Eurostat [t_nama_10_gdp], [10 February 2017].

All the analysed countries were growing at a faster pace than the EU average (1.1%), which allowed them to improve performance in terms of GDP per capita (table 1). Catching up countries have the potential to grow at a faster rate than developed countries because diminishing returns are not as strong as in rich countries. None of the economies has yet to reach the level of the EU average. Considering the fact that the countries of Central and Eastern Europe, together with the transformation of the political system accelerated the process of post-industrial transformation, the question about the driver of economic growth is still open to debate. The liberalisation of the economies and the pressure of international competition led to the need for reforms in the organization of manufacturing in CEEC. An additional challenge was the global trends that are increasing interactions in the modern global economic system and a high degree of internationalization of production which determines the possibilities of development of manufacturing companies. Consequently, it seems reasonable to examine changes in the manufacturing input in the surveyed economies in new conditions.

Tab. 2: Gross value added by economic activity in CEEC (2015, %)

	Agriculture	**Industry**	**Construction**	**Services**
EU	1.5	19.3	5.3	73.9
Bulgaria	4.8	23.5	4.3	67.3
Czech Republic	2.5	32.1	5.7	59.7
Estonia	3.4	21.2	6.2	69.2
Hungary	4.1	27.8	4.2	64.0
Latvia	3.2	16.7	6.4	73.7
Lithuania	3.6	22.6	7.3	66.5
Poland	2.6	26.3	7.8	63.3
Romania	4.7	27.1	6.6	61.6
Slovakia	3.7	27.0	5.5	63.9
Slovenia	2.4	27.3	7.9	62.5

Source: own study based on Eurostat [naida_10_a10], [10 February 2017].

Data aggregated in table 2 show the proportions of main economic activities in gross value added. In line with the general trend, in all countries the service sector has the largest share in total output, followed by industrial and construction sectors, while the share of agriculture is relatively small. Nevertheless, in all analysed countries services account for a smaller part of gross value added - GVA (on average 65.2%) than the EU average (73.9%). The lowest result in this area is recorded in the Czech Republic and the highest, comparable with the EU average, in Latvia. In general, the Baltic countries are characterized by a relatively high share of services in relation to industry. In other economies, the share of industry ranges from 23.5% in Bulgaria to 32.1% in the Czech Republic. Emphasis should be placed on the importance of manufacturing which generates an average of 80% of the industry value-added (the ratio varies in analysed countries from 66% in Bulgaria to 89% in Hungary: based on Eurostat 2017, naida_10_a10). Likewise, figures in table 3, which point changes in the structure of EU output and employment, have confirmed a shift from manufacturing to services. Between 2000 and 2015 the share of manufacturing in EU GVA fell by 2.7 percentage points (p.p), from 18.6% to 15.9%. This situation is the result of higher elasticity of demand for certain services than for most manufactured goods.

Tab. 3: Share of manufacturing value added (MVA) in GDP and employment in the manufacturing sector in total employment (EMP) in CEEC (2000-2015, %)

	2000		2005		2010		2015*
	MVA	EMP	MVA	EMP	MVA	EMP	MVA
EU	18.6	18.4	16.6	16.8	15.4	15.2	15.9
Bulgaria	13.8	20.4	16.0	19.6	13.5	17.5	15.5
Czech Republic	25.9	28.2	25.5	27.9	23.5	26.2	27.0
Estonia	17.3	22.5	16.6	22.9	15.7	19.7	15.8
Hungary	22.4	23.4	22.0	22.3	21.6	20.7	24.6
Latvia	15.4	17.0	13.0	16.3	13.4	16.2	12.5
Lithuania	18.9	18.1	20.2	18.0	18.8	17.2	19.3
Poland	18.2	19.3	18.4	20.1	17.7	18.5	19.7
Romania	22.1	17.8	23.8	21.1	23.9	20.5	22.4
Slovakia	23.9	25.4	23.6	24.5	20.8	21.8	22.5
Slovenia	24.9	28.0	23.6	25.8	20.2	20.9	23.2

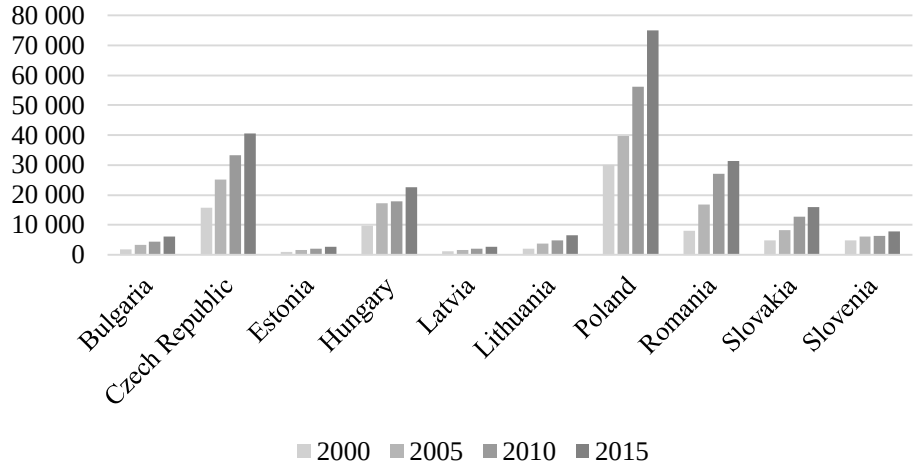
*No data on employment in 2015

Source: own study based on Eurostat [naida_10_a10] and [nama_nace06_e], [10 February 2017].

Trends in the countries of Central and Eastern Europe, however, are not clear. The reduction of manufacturing value added (MVA) occurred in Latvia (2.8 p.p), Slovenia (1.7 p.p), Estonia (1.5 p.p.) and Slovakia (1.5 p.p.). In turn in other economies the increased was observed, respectively: Hungary (2.2 p.p.), Bulgaria (1.7 p.p.), Poland (1.5 p.p.), the Czech Republic (1.1 p.p.) Lithuania (0.5 p.p.) and Romania (0.3 p.p.). Changes are multidirectional only in

relative terms because in real terms value added in manufacturing increased over the period in all analysed countries – figure 1 below. The manufacturing value added growth dynamics between 2000 and 2015 were high in all countries, the fastest in Romania (389%) and the slowest pace recorded in Slovenia (162%). This growth also contributed to the higher participation of the analysed economies into the EU manufacturing value added, the shift from 4.9% in 2000 to 10.0% in 2015 (in these countries lives, though, one fifth of the EU population). In addition, the differentiation between countries in terms of MVA per capita is noticeable. The highest value in 2015 (above average in the study group - 2781 USD) occurred in the Czech Republic (5012 USD), followed by Slovenia (4328 USD) and Slovakia (3541 USD). Bulgaria, Latvia and Romania were characterized by the lowest level of MVA per capita, accordingly 1020 USD, 1477 USD, 1859 USD (UNIDO 2016).

Fig. 1: Manufacturing value added in CEEC (2000-2015, million euro at current prices)

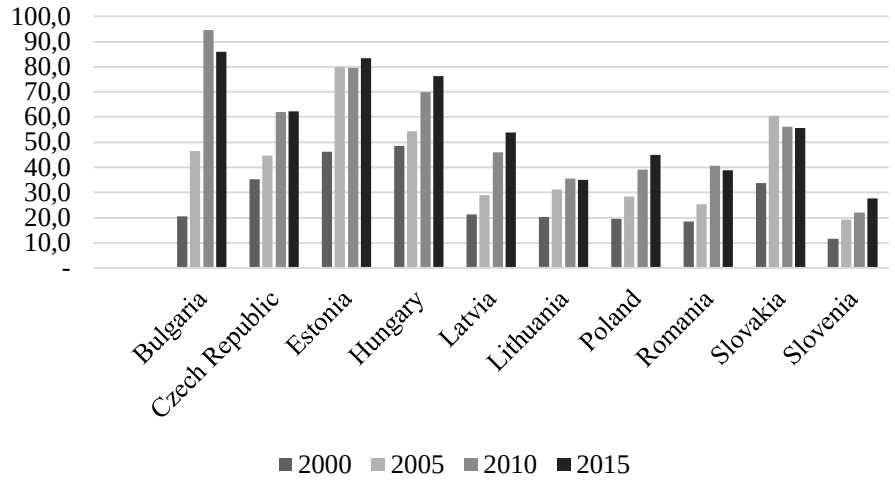


Source: own study based on Eurostat [naida_10_a10], [10 February 2017].

Analysis of changes in the share of employment in manufacturing compared to total employment allows to draw a clear conclusion. In all CEEC, except Romania, the importance of manufacturing in generating jobs has fallen. The greatest reduction -of 7.1 p.p- was in Slovenia and the smallest -of 0.8 p.p.- in Latvia and Poland (table 3). Noteworthy is the case of Hungary and Bulgaria; in both cases there was a decline in employment while manufacturing value added grew, which suggests an increase in productivity. Summarizing the analysis of data from table 3 and taking into account the quoted definitions on deindustrialisation, four economies should be indicated: Estonia, Latvia, Slovakia and Slovenia. In these mentioned countries the decline of both manufacturing output as a percentage of GDP and of manufacturing employment in total employment was observed.

Attention should also be paid to the inflow of foreign direct investment (FDI) in CEEC. There have been a number of studies investigating the link between FDI and economic growth in a transition economy. It is widely believed that FDI has gained a weighty importance as a tool for accelerating enterprise restructuring, technology diffusion and aid in successful transition to a market economy. All these changes affect the potential for manufacturing development in terms of the growth and improvement of competitiveness. Barrell and Holland (2000) confirmed this relation by studies based on industry-level data covering manufacturing sectors in Hungary, Poland and the Czech Republic. Subsequently Bijsterbosch and Kolasa (2009) provide empirical results for an essential role of FDI inflows in accounting for productivity growth in the central and eastern European region.

Fig. 2: FDI inward stock as a percentage of GDP, 2000-2015



Source: own study based on UNCTAD [FDI/MNE database], [15 March 2017].

CEEC are an attractive hub for FDI thus they have been quite successful in this field. The countries of the EU have taken a keen interest in investing into the CEEC since the beginning of the transition process. Examining the allocation of FDI across countries, figure 2 shows that Bulgaria overcomes in receiving the largest inflows with the FDI stock increasing from 20% to 86% of GDP between 2000 and 2015. Estonia and Hungary also record noticeable cumulated inflows and the FDI stock to GDP ratio is above 75%. It should be mentioned that large countries typically have a lower FDI position in terms of GDP than small countries.

Tab. 4: Total labour costs in industry (TLC, EUR) and real labour productivity per person employed index (RLP, 2010=100) in CEEC

	2000		2005		2012		2015	
	TLC	RLP	TLC*	RLP	TLC	RLP	TLC	RLP
EU	16.7	-	19.8	-	23.9	-	25.0	-
Bulgaria	1.3	71.0	1.6	86.8	3.4	106.9	4.1	112.9
Czech Republic	3.7	76.1	5.8	91.1	9.8	101.0	9.9	105.6

	2000		2005		2012		2015	
	TLC	**RLP**	**TLC***	**RLP**	**TLC**	**RLP**	**TLC**	**RLP**
Estonia	2.9	67.8	4.3	91.3	8.6	103.6	10.3	104.5
Hungary	3.6	76.7	5.9	96.0	7.4	100.0	7.5	101.1
Latvia	2.2	63.0	2.9	89.1	5.9	107.4	7.1	113.1
Lithuania	2.6	58.2	3.2	82.8	5.9	107.7	6.8	112.1
Poland	4.2	72.1	4.7	86.6	7.9	106.0	8.6	111.8
Romania	1.5	55.6	1.9	85.6	4.1	107.7	5.0	120.7
Slovakia	2.8	66.4	4.1	82.4	8.9	102.6	10.0	108.1
Slovenia	10.9	80.9	11.2	95.0	15.6	100.5	15.8	104.4

*Data for 2004

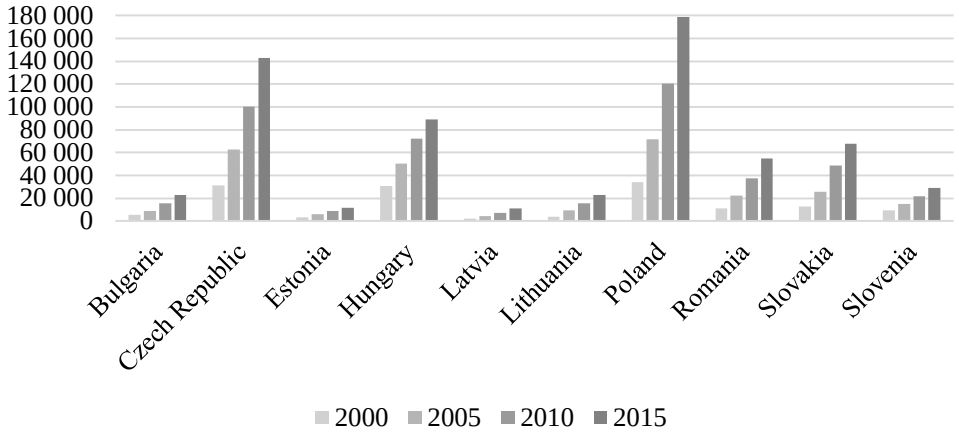
Source: own study based on Eurostat [lc_lci_lev] and [tipsna70], [15 March 2017].

With respect to the allocation of FDI across sectors, most inflows go to industry or financial and business related services. The previous analysis reveals that the key determinants of FDI inflows in CEEC are market size, host country risk, lower labour cost and openness to trade (Janicki and Wunnava 2004). Further Bijsterbosch and Kolasa (2009) studies indicate that FDI in industry seems to have been mainly motivated by cost reduction. According to data collected in table 4, the extent of total labour costs in industry in all CEEC is lower than the EU average. Despite an average of nearly three times the index increase in CEEC between 2000 and 2015, the level of total labour cost in industry is still clearly lower (undermost in Bulgaria and Romania, while uppermost in Slovenia and Estonia). Cheap labour is of particular interest for countries whose wage levels are high and where companies are looking to cut costs by relocating production to regions where resources are available at a lower price. Though in the long-term, the strategy mainly based on cost advantages is risky in view of the strong competition from the emerging economies, the positive direction of changes is the labour productivity growth in all analysed economies. The fastest growth rate of the indicator was recorded in Romania, Lithuania and Latvia. Nevertheless considering the increase of productivity as a key priority for dynamics of GDP growth, it should be emphasized that the productivity levels in CEEC remain substantially below the EU average. According to Eurostat data, the average labour productivity per person employed for analysed countries in relation to EU-28 is 70% (the lowest in Bulgaria: 44.2% and the highest in Slovakia: 83.2%). The difference between the labour costs in the two regions is also the main reason for the increased outward processing trade between CEEC and the EU, which is the focus of the next section.

1.2 The main tendencies in the development of CEEC foreign trade and their participation in global value chains

Since the transition period in CEEC both direct investment and trade have intensified rapidly. As reported by data collected in figure 3, the average export growth between 2000 and 2015 in CEEC was 450% (while the average manufacturing value added growth reached 280%). Trade flows increased spectacularly between CEEC and others EU members.

Fig. 3: Exports dynamics of CEEC (2000-2015, million euro)

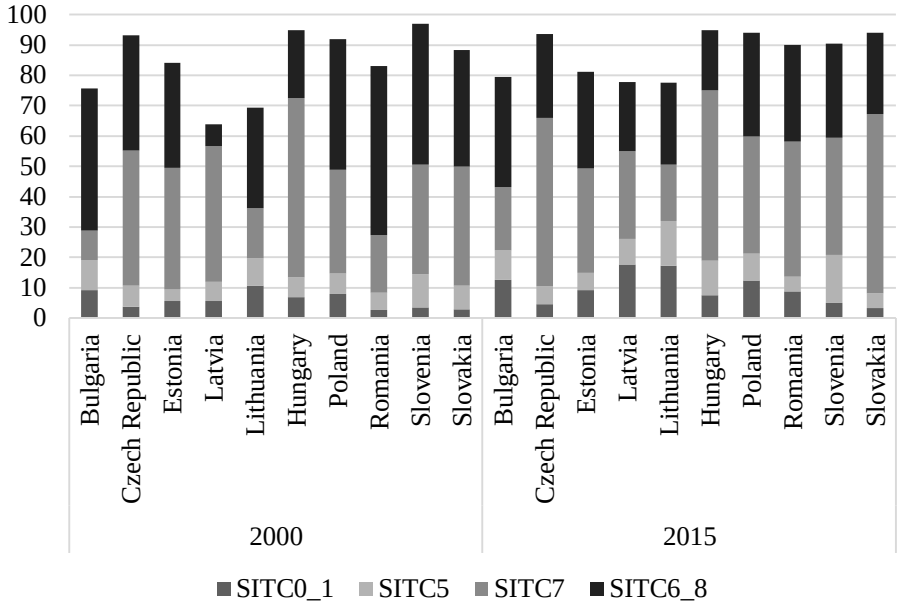


Source: own study based on Eurostat [ext_lt_intratrd], [14 February 2017].

Western companies established production sites in CEEC by means of subcontracting and outward processing trade. Thus the intensification of industrial production was mainly driven by growing exports. Also the evolution of exports indicates that companies responded to changed conditions by restructuring their production to gain new markets. The largest increase (above the average in the study group) occurred in Lithuania, Latvia, Slovakia, Poland, Romania and the Czech Republic (figure 3). In all countries the structure of exports was dominated by manufactures both in 2000 and 2015 (on average 84.2% in 2000 and 87.4% w 2015). Nevertheless, the share of manufacturing products in total exports between 2015 and 2000 fell in Slovenia and Romania, respectively 6.6 p.p. and 3.0 p.p. Afterwards *Standard international trade classification* (SITC) is used to investigate the structure of CEEC exports in manufactured goods. In the study four main categories of manufactured goods are distinguished: SITC0_1 - food, drinks and tobacco; SITC5 - chemicals, SITC7 - machinery and transport equipment, SITC6_8 - other manufactured goods. Taking into consideration data summarized in figure 4, it turns out that in most selected countries the dominant position in manufactures exports belongs to SITC7. This is particularly evident in Slovakia, the Czech Republic and Hungary, in all cases the share of machinery and transport equipment in total

manufactures exports was more than 50%. At the same time there were no significant changes in the structure of exports of individual economies.

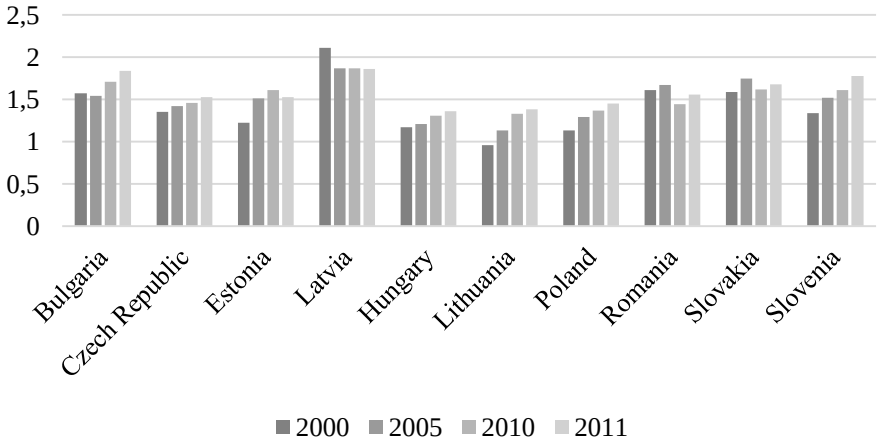
Fig. 4: Share of manufactures exports by products in CEEC (2000, 2015; %)



Source: own study based on Eurostat [ext_lt_intratrd], [14 February 2017].

The dynamic development of international trade implies a sharp increase in trade in intermediate goods and components. Consequently economic interdependence between countries is reinforced. In order to verify the degree of the involvement of the CEEC in global value chains the OECD database is used – TIVA (trade in value added).

Fig. 5: The ratio of the value of gross exports of intermediate products to gross exports of final products in CEEC (2000-2011*)



* the most recent data refer to 2011

Source: own study based on OECD [TIVA], [15 March 2017].

Figure 5 shows the general trends of faster increase in the gross exports of intermediate products in relation to export of final goods, which is a sign of the growing economies' participation in global value chains. The value of exports of intermediate products exceeds the value of exports of finished products in all analysed countries, moreover, in most cases, the index increases (with the exception of Estonia, Latvia and Romania).

Tab. 5: Domestic (DVA) and foreign (FVA) value added share of manufacturing gross exports in CEEC (2000-2011*)

	2000		2005		2010		2011	
	DVA	**FVA**	**DVA**	**FVA**	**DVA**	**FVA**	**DVA**	**FVA**
Bulgaria	57.0	43.0	57.3	42.7	54.2	45.8	50.6	49.4
Czech Republic	55.2	44.9	50.5	49.5	48.7	51.3	47.7	52.3
Estonia	43.9	56.1	46.4	53.6	58.0	42.0	55.3	44.7
Latvia	66.4	33.6	64.0	36.0	65.2	34.8	63.2	36.8
Hungary	39.2	60.8	44.0	56.0	41.7	58.3	42.2	57.9
Lithuania	70.3	29.7	75.9	24.1	70.2	29.8	69.9	30.1
Poland	69.5	30.5	65.6	34.4	61.2	38.8	59.9	40.1
Romania	73.5	26.5	66.4	33.6	75.8	24.2	73.2	26.8
Slovakia	49.2	50.8	44.8	55.2	46.0	54.0	45.2	54.8
Slovenia	57.3	42.7	55.2	44.8	57.4	42.6	56.5	43.6

* the most recent data refer to 2011

Source: own study based on OECD [TIVA], [15 March 2017].

A more active CEEC participation in the processes of fragmentation of industrial production is accompanied by an increase in the foreign value added share of gross exports. Between 2000 and 2011 the largest increase was recorded in Poland (9.6 p.p.), the Czech Republic (7.5 p.p.), Bulgaria (6.4 p.p), Slovakia (3.9 p.p) and Latvia (3.3 p.p). As a result of the intensive growth in the share of foreign value added, a reduction of domestic value added occurs. This tendency indicates that the CEEC manufacturing exports are dependent on imports, which means that these economies strengthen more backward cooperative ties of the global value chains. A different trend arises in Estonia and Hungary, where the domestic value added share of manufacturing gross exports rises in both countries. Beyond these examples, therefore, a common phenomenon in CEEC is the increase in imports of foreign components used in export. Whereas the competitiveness of the manufacturing sector requires a gradual increase in the share of domestic value in the profitable stages of the global value chain (usually at the beginning of the chain: steps associated with research and development).

CONCLUSION

In terms of manufacturing, countries of Central and Eastern Europe have experienced double challenge in the last decades. On the one hand the risks of systemic transformation and

liberalisation of the economy, the EU accession and competition in the single market, on the other significant changes in the organization of industrial production on the global scale. There are no doubts that the role of manufacturing in the structural transformation, catching up process and economic growth has been considerable. Despite that fact, the experiences have been heterogeneous across countries. According to the results of analysis the economies which were covered by the study can be divided into four groups:

1. The first group includes Southeast Europe EU members - Bulgaria and Romania - with still quite significant capacities in agriculture. Additionally, these countries are categorised by relatively high dynamics of manufacturing and manufactures exports but the level of MVA per capita is still low.
2. The second group consists of Baltic economies with quite a strong and developing service sector. These economies have the lowest employment rate in manufacturing and this share has been decreasing. At the same time the share of manufacturing value added in GDP in Estonia and Latvia has fallen, while in Lithuania is stable.
3. The third group is Slovakia and Slovenia, where the manufactures exports share is prevailing (above 90%), the level of MVA per capita is high but in both economies the deindustrialisation process has started.
4. The fourth group comprises the other countries of Central Europe, namely the Czech Republic, Hungary and Poland. In these countries, a systematic growth of manufacturing – both in real and relative terms – is observed. This tendency is mainly stimulated by export growth.

Examination of changes in manufacturing in the EU shows that the importance of manufacturing has decreased according to both the share of GVA and employment. The regress of manufacturing in the economy is a matter of concern for policy-makers and the call for industrial policy. However, despite the generalized deindustrialisation trend in the EU, the study indicates diversity of the CEEC and emphasises the need for prudent interference in the direction and intensity of the process. Taking into account the role of manufacturing's spill-over effects to other sectors, the need for manufacturing has become clear. Advantages of CEEC economies, including mainly lower labour costs, have made them an attractive destination for FDI. These countries actively participate in global value chains but their exports are dependent on imports of components. The major challenge of the 21st century for each economy is the task to create a strategy which allows to build or improve comparative advantages in the highly globalized world economy and global value chains. Rodrik identifies two key dynamics behind growth. The first is the development of fundamental capabilities in

the form of human capital and institutions. Long-term growth finally depends on the accumulation of these capabilities but it is a slow, drawn-out affair. The second is structural transformation towards new higher-productivity industries (Rodrik 2013, p. 4-5). The significance of accelerating productivity growth is obvious. However institutions matter in this context as well, they can influence economic performance and improve allocative efficiency through, inter alia, industrial policy tools. The structural transformation of catching up countries requires a type of manufacturing sector development that can improve competitiveness and deliver high-quality employment. Industrial policy can make valuable contributions but the character and structure of manufacturing plays a decisive role. Thus the direction of development at the EU level is a valid point of reference, but the flexibility in implementing the assumptions of the strategy in each country is also important.

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Segmentation of the Czech Classical Music Audience

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Abstract: This paper is focused on segmentation of classical music audience in the Czech Republic using MML-TGI secondary data. MML-TGI is the most extensive study about consumption, which is complemented with detailed data about lifestyle. Approximately 15 000 respondents in the Czech Republic take part in this study every year. The segmentation of classical music audience was not yet introduced in the Czech Republic. In the world, current research in this field is based mainly on the concept of omnivores vs. univores, which was introduced in 1992 by Richard Peterson in his study Understanding audience segmentation: From elite and mass to omnivore and univore. The aim of this paper is to verify whether this concept is applicable in the Czech environment. Detailed identification of target groups will help Czech cultural organizations to create new marketing strategies and to manage their financial resources efficiently. For the purpose of segmenting, MML-TGI data were analyzed using cluster analysis. We answer questions how education, age, marital status, income levels etc. affect leisure time and what are the typical characteristics of consumers of the classical music. Further research on classical music audience in the Czech Republic will focus mainly on musical tastes and motivation to participate in concerts or classical music festivals.

Keywords: segmentation, classical music, audience segmentation, music consumption

JEL Classification codes: M31

INTRODUCTION

One of the essential attributes of the consumption of music is the fact that it falls within the range of leisure time activities. In direct competition with music as filling leisure time we find not only another activities related to culture such as theaters, museums, galleries etc. but also many other leisure activities such as sport, traveling, do-it-yourself, pets, gardening, TV etc. The field of music itself is divided into many different genres and styles and we could assume that each of them has its own audience. In these circumstances, there is an increasing need of cultural organizations to understand how different consumers allocate their free time to different leisure activities (Jansa et al. 2012). Institutions need to know their costumers and the details of the market in which they operates, in order to work well and efficiently. On the basis of this knowledge, they can then customize the services offered, programme and additional services. This knowledge is also necessary for adequate communication and the creation of appropriate marketing strategies. One of the most fundamental techniques used to

uncover the attributes of the market is segmentation. The goal of this paper is to segment the audience of classical music in the Czech Republic using MML-TGI secondary data. Segmentation is performed in terms of leisure time activities that people perform. We analyze how different variables can influence the preference of classical music.

1 LITERATURE REVIEW

The literature on the topic of participation in the Performing Arts is published infrequently and little theory-based research explains classical music attendance in general. Studies devoted to research of classical music audience are based on both quantitative and qualitative research. In literature, we can find different approaches to this issue.

With regard to segmentation, much attention is devoted to the area of audience development in the literature. In last years, the cultural sector must constantly face the challenges related to aging (Kolb 2001) and reducing the number of audience (DiMaggio and Mukhtar 2004) and also funding of culture. Consequently, cultural institutions are looking for ways how to retain existing and how to obtain new audience (Kemp and Poole 2016). There exist rising need for research customer behavior in the consumption of arts (Hand 2011; Tong et al. 2016; Hansen 2015).

When we talk about participation in the arts, we cannot ignore the research of taste. Many papers which deal with investigation of taste, are based on the work of Pierre Bourdieu and his concept of cultural capital. The sources of cultural capital include ownership of cultural objects, education and acquired culture competence (Bourdieu 1979). Arts attendance is considered as a part of cultural capital. With respect to Bourdieu's theory of arts perception, Rössel (2011) demonstrates that the modes of cultural consumption in case of listening classical music are determined by listeners' cultural capital. Some authors observe, that the role of the arts as cultural capital is in decline (DiMaggio and Mukhtar 2004).

1.1 Concept of omnivores and univores

In 1992 Richard Peterson published a fundamental study on audience segmentation *Understanding audience segmentation: From elite and mass to omnivore and univore.* Peterson (1992) introduces the concept of omnivorousness while exploring the tastes and preferences by culture consumers. This concept was developed in 1996 by Richard Peterson and Roger Kern in *study Changing highbrow taste: From snob to omnivore.* In opposition to omnivore, there is a man who prefers only one kind of art or a genre (univore). The audience segment of omnivores is recruited mainly from former cultural elite which has a high social

status, high income and a higher level of education (Peterson and Kern 1996). In arts audience segmentation research, this concept is used very often today. López-Sintas and Katz-Gerro (2005) apply the concept to analyze arts participation in the USA in years 1982-2002, Favaro and Frateschi (2007) verify whether musical tastes in Italy are diversified and argue that there is a group of cultural omnivores in Italy. Roose and Vander Stichele (2010) analyze whether public and private music consumption have different correlates and to what extent there is convergence between the genres that people listen to at home and at concerts. Omnivorousness in music consumption is especially situated in the private sphere. Sullivan and Katz-Gerro (2007) augment measures of cultural omnivorousness with a new but related dimension of voraciousness. This reflects a 'quantitative' dimension of leisure consumption based upon both the range and the frequency of leisure participation.

1.2 Research of music audience in the Czech Republic

In the Czech Republic we can find only several studies on classical music audience. Bačuvčík (2011) analyzed the audience of four Moravian symphony orchestras. There were also introduced some case studies related to concrete cultural institutions (Chytková et al. 2012, Dostál and Černá 2015). In real practice, cultural institutions often conduct their own market research. As a basis for their marketing decisions, they also frequently use the data, which are published by The National Information and Consulting Center for Culture (Nipos 2017). The National Information and Consulting Center for Culture is a contributory organization of the Ministry of Culture of the Czech Republic and performs statistical service in the field of culture.

2 METHODS

Generally, segmentation is a process of searching and describing different groups of consumers i.e. segments that are homogenous on the inside but heterogenous on the outside (Koudelka 2005).

For audience segmentation, we have conducted a post-hoc segmentation, i. e., segmentation of existing survey data. We used the data collected in 2014 by research agency Median in frame of MML-TGI study.

Market & Media & Lifestyle – Target Group Index (MML-TGI) is an extensive study about consumption with more than 300 types of services and 3 000 individual brands connected to data on television ratings, radio ratings, print media ratings and online activities. This is complemented with detailed data about lifestyle. This project has been running since 1996

under the license from the British agency BMRB. Approximately 15 000 respondents in the Czech Republic take part in this study every year. The extensive number of areas of interest and questions in the questionnaires combined with a high number of participating respondents provide a unique source for precise profiling of target groups. The same type of research is conducted in more than 70 countries worldwide (Median 2006).

To obtain the basic characteristics of classical music consumers we used a general analysis. In this way, we were able to find out what percentage of population count the classical music among his favorite genres, what is the age or education structure of this target group, how different consumers allocate their free time to different leisure time activities etc.

Then we analyzed the relationships between relevant variables, i. e., personal data such as age, education, family situation and income level but also the amount of leisure time and manner of its use, preferences of musical genres etc. by the target group of classical music consumers, i. e., people who attend classic music concerts or festivals. We carried out a factor analysis which reduced all potentially relevant variables related to leisure time and uncovered the essential factors that were later used as the segmentation basis.

The segmentation itself was performed by non-hierarchical, non-overlapping cluster analysis using newly uncovered factors as variables. Derived segments were further developed with the re-use of the general analysis.

All analyzes were performed using Data Analyzer software provided by Median.

3 RESULTS AND DISCUSSION

First we carried out a general analysis to describe the essential characteristics of the classical music market in the Czech Republic. As expected, listeners of classical music tend to have a high school or university education, middle and higher income, with a higher income, the frequency of concert or festival attendance increases. Also the residential area influences the frequency of concert or festival attendance: the larger the population, the more frequent visits of concerts or festivals. The marital status of respondents also plays an important role – almost 50% of single people (either unmarried or widowed) attend a concert each month or more in contrast of 24 % of divorced and 37% of people in pairs.

Very surprisingly, on average 18% of adults include the classical music among their favorite musical genres (see Tab. 1). This amount is very high. In contrast to this high preference, only 3% of adults participate actively in classical music concerts and festivals.

Tab. 1: Preferences of musical genres in population

	Age						
	12 – 15	**16 - 24**	**25 – 34**	**35 – 44**	**45 – 54**	**55 – 64**	**65 – 79**
Target group: population	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**
What genres of music do you like?							
Country/western	12,9	13,7	18,8	27,9	41,2	53,3	40,4
Brass music	3,8	2,4	4,6	7,8	16,0	35,7	60,5
Disco	40,0	40,1	34,3	31,9	25,5	15,0	7,5
Folk	1,9	10,6	14,0	20,6	26,8	25,0	18,0
Hard rock	7,6	14,0	15,8	17,1	17,4	6,2	1,0
Heavy metal	15,8	14,7	12,6	12,6	12,7	3,9	0,6
Hip-hop	30,7	24,7	13,6	6,8	3,1	1,8	0,8
House	5,0	12,0	8,1	4,2	1,1	0,9	0,4
Jazz	6,9	9,2	11,9	10,3	10,4	14,0	14,5
Classical music	**5,7**	**9,6**	**14,8**	**18,2**	**20,4**	**22,2**	**22,4**
National folk songs	5,6	5,9	8,2	9,6	15,3	23,6	30,2
Musical	13,8	19,0	22,1	26,7	28,4	26,6	23,2
Opera / operetta	**0,8**	**5,6**	**5,9**	**8,9**	**11,9**	**16,4**	**21,9**
Pop music	41,1	46,4	49,1	47,5	39,7	35,5	24,3
Punk	8,9	10,7	10,8	7,4	3,7	1,3	0,3
Reggae	4,6	9,1	11,0	6,5	7,7	3,7	1,4
Rock	15,0	34,2	42,1	35,9	34,2	16,3	5,4
Rock'n'roll	13,7	18,1	19,0	17,5	23,5	19,1	6,5
Ska	**0,1**	6,1	9,1	2,5	0,7	0,5	**0,1**
Soul / rhytm&blues	6,4	8,4	8,0	6,1	8,1	7,6	2,5
Techno	26,5	19,4	12,2	6,6	2,1	1,9	1,0
Trance	**0,5**	6,1	5,4	2,6	0,9	0,6	0,9
Other genre	**0,3**	4,8	2,1	1,8	0,8	0,7	0,4

Source: Median, data MML-TGI 2014

To verify whether the concept of cultural / music omnivorousness is applicable in the Czech environment, we tested the preferences of other musical genres by classical music concerts and festivals attendees. The results of the analysis positively proved that the classical music lovers like many other musical genres (see Tab. 2). We can also say that Czech music consumers are omnivores.

Tab. 2: Preferences of other musical genres in combination with participation in classical music performances

	Age						
	12 – 15	**16 - 24**	**25 – 34**	**35 – 44**	**45 – 54**	**55 – 64**	**65 – 79**
Target group: classical music concerts and festival attendees	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**
What genres of music do you like?							
Country/western	**0**	64,6	29,0	50,6	56,6	68,2	51,8
Brass music	**39,2**	21,4	**2,7**	21,6	45,8	18,8	72,3
Disco	**34,3**	24,7	16,4	37,5	19,3	15,4	**3,7**
Folk	**0**	21,4	28,2	49,6	70,6	56,9	19,0
Hard rock	**0**	44,9	15,1	29,6	22,8	13,9	**0,3**
Heavy metal	**0**	58,7	15,0	25,5	**1,2**	6,3	**0,3**
Hip-hop	**26,5**	**3,0**	**4,0**	27,5	**1,0**	**1,4**	**0,3**
House	**0**	**18,6**	**1,7**	10,9	**0,6**	**2,3**	**1,6**
Jazz	**0**	44,4	33,0	37,3	41,9	48,2	32,4
Classical music	**100,0**	56,0	65,7	89,9	81,7	92,3	81,2
National folk songs	**65,7**	48,3	33,7	52,7	67,0	39,4	61,9
Musical	**39,2**	47,8	41,9	53,7	61,2	40,6	64,3

	Age						
	12 – 15	**16 - 24**	**25 – 34**	**35 – 44**	**45 – 54**	**55 – 64**	**65 – 79**
Target group: classical music concerts and festival attendees	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**	**s.%**
What genres of music do you like?							
Opera / opereta	**0**	50,4	**10,1**	43,6	49,1	58,5	79,8
Pop music	**87,3**	47,8	50,8	45,5	43,8	49,0	30,3
Punk	**0**	**20,5**	**3,4**	22,6	14,1	8,0	**0,3**
Reggae	**0**	**20,4**	20,6	26,4	29,8	10,4	**1,6**
Rock	**0**	46,4	53,9	47,3	28,1	24,9	7,9
Rock'n'roll	**0**	24,7	26,5	41,1	39,2	43,2	13,4
Ska	**0**	39,1	11,1	16,4	**0,3**	6,5	**0,3**
Soul / rhytm&blues	**0**	43,6	19,3	26,2	25,0	24,5	**5,5**
Techno	**0**	**0,9**	**1,7**	19,4	**0,9**	**3,4**	**0,6**
Trance	**0**	**18,6**	**2,2**	14,8	**0,3**	6,6	**0,3**
Other genre	**0**	**1,0**	**0,9**	10,5	**6,8**	10,6	**0,3**

Source: Median, data MML-TGI 2014

Since for the segmentation secondary data were used, its design has certain limits. We can also work only with categories that the Data Analyzer offers and we are not able to enter into the process of analysis itself.

Before performing the cluster analysis to segment the classical music audience, it was necessary to reduce the number of variables using the factor analysis. The variables used in the factor analysis included questions about consumption of leisure time activities. The consumers responded to questions how often they engaged in different activities. The analysis resulted in six factors described as follows:

Factor 1: "Arts-related"

The first factor includes various activities related to art. It includes participation in performing arts (concerts, theater, festivals), visits to museums and exhibitions, reading books, but also cultural tourism and individual artistic activities. It includes both out of home and in-home culture consumption.

Factor 2: "Weekend-related"

This factor includes typical week-end activities, such as gardening, spending weekend time at the cottage, repair work in the apartment or in the house, but also spending time in shopping centers or passive consumption of sports.

Factor 3: "Related to active social life"

The third factor includes activities, which are typical for active social life such as balls, cinema, parties, but also traveling or language courses.

Factor 4: "Related to home environment"

This factor includes activities typical for leisure time at home such as do-it-yourself, watching TV, handiwork and needlework, reading newspapers and magazines but also care of animals.

Factor 5: "Computer-related"

As expected, one of the derived factors is associated with spending leisure time at the computer and the Internet. This factor seems to be very important.

Factor 6: "Sport-related"

The last factor includes active sport activities, individual or with friends.

Once the factors were derived, we have used them as variables in a cluster analysis. We uncovered five segments of classical music audience:

Segment 1: "Active and practical art lover"

These people are widowed or live in couple, with higher or university education and belong to higher social classes. These people have a strong negative attitude to "low" culture activities. In terms of audience development and marketing activities of cultural institutions, this segment is most attractive. In this group of people, cultural marketers should seek for opinion leaders.

Segment 2: "Home consumer"

These people are mainly widowed or divorced, with secondary or higher education and belong to middle or higher middle class. These people have rather negative attitude to "high" culture activities. Their motivation for attending a concert is meeting with friends.

Segment 3: "Introverted anti-sportive computer fun"

These people are unmarried or live in couple, have higher or university education and belong to middle and higher classes. These people are not at all interested in sports. They love the arts and dislike housework. They spend most of their leisure time at the computer.

Segment 4: "Sportive computer and active social live devotee"

These people are unmarried, have higher or university education and belong to middle and higher classes. These people have a negative attitude to activities related to leisure time at home such as do-it-yourself, watching TV, handiwork and needlework, reading newspapers and magazines. In contrast, these people like they are educated and socially active. They seek contact with others and doing sports.

Segment 5: "Non-active and dislike computer"

These people are mostly widowed, have lower education (without graduation) and belong to middle or lower social classes. These people have a negative attitude to computers and doing sports. They love arts but are not very active in social live.

As already mentioned, the audience of classical music generally has a higher education and higher income - see also (Peterson 1992) and others. For the audience development, use of worth of mouth as a communication channels is significant (Slack et al. 2008), it is therefore

appropriate to focus on those segments that are communicative and socially active. In our case, this concerns mainly the segment 1 and 4.

CONCLUSION

This paper focus on segmentation of classical music audience in the Czech Republic and it can be viewed as the first general attempt to this issue.

The most surprising finding is the high popularity of classical music – almost one fifth of the adult population include the classical music among their favorite musical genres. This fact is especially interesting in connection with the position of classical music on the market of leisure activities, since classical music is historically considered as "high" culture.

Therefore, there exists a great potential for audience development. This finding is particularly interesting for cultural organizations. Their target group is therefore sufficiently large, so they have a great opportunity to take advantage of this fact. Our results can be used as a starting point for creating new marketing strategies and targeted marketing.

We proved that the Czech classical music audience is omnivore. By research based on MML-TGI data, we are not able to verify if there is also a group of univores among the people who like classical music.

These findings provide inspiration for further deeper investigations. Further research on classical music audience in the Czech Republic will focus mainly on musical tastes and motivation to participate in concerts or classical music festivals. Besides, we can´t ignore the big group of people who like classical music and do not participate at its performances and also the group of those who do not like classical music. Therefore, it will be necessary to explore also the tastes and motivation of these people.

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The Role of a Brand in Purchasing Behavior of Generation X and Senior Customers: A Study of Various Aspects of the Impact of a Brand

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Abstract: The age of a consumer determines his behavior in many ways. People born in a certain time period have common features - the shared cultural, political and economic experience creates a common frame for understanding the world and results in having a similar values. The period in which an individual lives creates a cultural framework and at the same time connects him with a large number of people - his peers. Generation is characterized by having undergone the same historical events in the same period of life. This causes that people belonging to a certain generation have similar memories of historical or cultural heroes, and they tend to understand the outer world in a way that is specific only for them. Therefore it is obvious that different generations perceive the marketing inputs differently but often very similarly inside the age group - generation. The aim of this paper is to compare various aspects of shopping behavior of two generations. The presented data are the results of the survey conducted in the summer 2016. The data were gathered by semi-structured individual interviews. The aim of the survey was to find out what is the role of the brand in the purchasing process among the two customer groups - Generation X - the current group of productive middle-aged customers and the group of Baby boomers - generation entering post productive age, generation of upcoming seniors. Researching the chosen age groups the article points out the differences in various aspects of impact of a brand in purchasing process.

Keywords: generation X, baby boomers, purchasing behavior, brand

JEL Classification codes: M31

INTRODUCTION

Purchasing behavior has been the subject of various qualitative and quantitative researches worldwide. These studies all tried to describe and understand behavior of consumers during the process of purchase. The aim of this paper is to uncover differences in various aspects of purchasing behaviour among two generations - Generation X currently middle aged people and senior customers.

1 LITERATURE REVIEW

Generation X and Baby Boomers

Authors dealing with generational cohorts (Howe & Strauss 2000) think that people born in a certain time period have several common features. These specifics are caused mainly by shared cultural, political and economic experience and therefore "the Generation" - as it is usually referred to - has similar values and sees the outer world the same way (Krištofičová 2011). Generational cohorts differ in attitudes towards materialism and finance, purchasing behavior, attitudes to consumption, working habits and usually they respond to different forms of communication (Hill 2002). Significant generations also get a name that describes their character.

Generation that arose after World War II is called Baby boomers - due to the fact of large number of newborns during this period (1946 – 1964). There is no globally valid definition of this generation's consumer behavior, since the world they grew in was not globalised. The Baby boomers of the West are very well researched and widely characterized. On contrary the consumer behavior of Baby boomers that lived in the East block is still not described to great details. This generation in the Eastern countries grew unaware of the power of product advertising, it was raised without accent on brands. Shopping was not a pleasant activity, since there was prevalence of demand over supply and customers had to queue for basic goods. This was not only typical for their childhood - shortly after war, but also during their adulthood - in sixties, seventies, eighties and early nineties. So although the generation of western Baby boomers - also known as brand seekers (Sabelhaus & Manchester 1995) - is seen as financially strong and commercially very profitable, the eastern Baby boomers are more thrifty, cautious and not that well off. Baby boomers are currently a transitive generation, they are in a phase of life when they move from productive to post productive stage. Approximately half of them still works and therefore is financially independent, able to purchase whatever is needed. They often declare financial freedom as children are already out of home. The second group consists of retired and unemployed soon to be retired who are usually representing low income households. Typical for their shopping behaviour is choosing a nearby shop or a shop within a comfortable reach via public transportation. Their consumer choice is often influenced by their purchase habits and item price. (Lesáková 2014; Kőppl 2011)

According to large researches of this generation the major features in their up to date consumer behaviour differing them from other generations, caused by aging are (Richterová et al 2015):

- change in life values resulting in changes in preferences and desires
- weakening of physical abilities (strength, walking distance, sight etc) and health
- change of lifestyle (no more children at home, retired, widowed), less finances more time.

As a result this generation tends to buy less for less but spend more time with the overall purchasing process. According to studies this generation plans the purchase very well and is least prone to spontaneous purchases (GfK 2007). Baby boomers seek discounts, sales and are surprisingly least influenced by product package design (GfK 2007).

The next generation is called X and is often referred to as the 13th Generation or Children of the Eighties or MTV Generation. The members of Generation X were born in the period of 1965-1980 (Gurau 2012). This generation is still not describable globally. X in East European countries experienced, during their childhood, the socialist system of state's governance over the market and the shortage of supply. But subsequently, at the time of their adolescence and early adulthood, situation changed dramatically. The transformation of the system had an impact on their understanding of market and marketing. According to researchers (Pauhofová et al. 2012) in Slovakia, this generation acknowledges the authorities, values the traditional family and is responsible towards future. When purchasing members of Generation X like to show off. They like brands and they tend to see them as a social status indicators (Richterová et al 2015). Rresearches (Supervision of Intergenerationl Dynmics 2009) show, that they tend to spend more than save, they are not worried to have debts. they often overuse buying on credit and have no savings. On the other hand, Generation X is the segment which buys the private brands the most out of all age groups (Čimová 2015). It is caused not only by trust that private brands have among this generation but also by extent of their purchases - they buy the most out of all researched age groups due to need of large family purchases.

2 METHODS

The data that formed the base for this paper were gathered in summer 2016. The survey, with goal to understand the purchase behaviour of two generations was carried out in a form of semi structured interviews. The interview was either with a member of Generation X (a person born between 1965-1980) or with a member of group belonging to Baby boomers, (people born before 1965). The respondent had to be the one responsible for the purchases in the household. The final sample consisted of 80 representatives of Generation X and 140 members of Baby boomers proportionally chosen from all regions of Slovakia, from both

rural and urban areas. Gender was not important for the sample construction but as women are more often responsible for the household purchases, women were prevalent.

Semi structured interviews were recorded, with consent of the interviewed, and later transcribed. After identifying common answers, these were given codes and only than the text were structured and coded answers were processed using SPSS. Interviews were processed to find out if there are statistically significant differences in various aspects of purchasing behaviour among researched generations. To discover the statistically significant differences on significance level α=0,05 contingency tables and $\chi 2$ test were used.

3 RESULTS

Major impact on how people buy grocery and what products they choose has the way people prepare food. The decision whether to prepare food from scratch or whether to use convenience food impacts selection of purchased assortment as well as the frequency of shopping, budgeting and others aspects. Therefore there was a need to find out how do participants prepare their meals (Table 1).

Tab. 1: Food preparation

	Generation X %	**Baby boomers %**	**Pearson Chi-Square**
			0.066
Most of the time food prepared from scratch	63.5	46.6	
Food always prepared from scratch	35.1	46.6	
Using only convenience foods	0.0	0.7	
Most of the time food prepared using convenience foods	1.4	6.2	

Source: Results of the authors´ research

When preparing food most of the respondents usually use basic groceries and prepare food from scratch. Approximately one third of the Generation X tries to avoid using convenience food whereas almost one half of Baby boomers does so. The younger generation more often decides to choose convenience food due to time savings or lack of know how (mostly food made from yeast dough). With older generation the reason for choosing the semi-prepared food is different. Usually one or two member households choose to buy convenience food due to quantity reasons - it is easier to buy one or two portions of semi-prepared meal than to cook such small quantity.

Important role in purchasing process is budgeting. When it comes to planning the purchase, deciding what products to buy and which brand to prefer, budget is a great limitation and therefore we researched how participants perceive their budget and if they think it has changed over last period (Table 2).

Tab. 2: Purchase budget

	Generation X %	Baby boomers %	Pearson Chi-Square
Change of purchase budget			0.000
Budget has not changed	23.0	25.3	
Budget has increased	55.4	28.8	
Budget has decreased	21.6	45.9	

Source: results of the authors´ research

A change of purchase budget differs significantly between generations. While most of the middle generation has larger budget than in previous period, almost half of seniors feels opposite way. Increase in the budget of the middle generation is due to the growth of their income and decline in expenses for household equipment that had been required sooner. Some respondents belonging to X generation declared they feel freedom in their purchases as they think they can afford all they need when it comes to daily purchases.

Decline in daily purchase budget of Baby boomers is mainly due to retirement. Many of the interviewed see it as an handicap because even during daily shopping they cannot afford to buy more expensive products and they often have to consider what they can buy and what needs to be postponed, or given up. On the other hand there is a group of senior generation that does not see the decline in their budget so negatively. They reduced their expectations and requirements, as they realized they do not need so much anymore.

When it comes to buying grocery and basic goods, people tend to have habits, that uncover their overall approach to purchasing. Therefore following section describes purchasing habits and perception of brands among researched generations.

Tab. 3: Purchasing habits

	Generation X %	Baby boomers %	Pearson Chi-Square
Preference of common purchase size			0.020
I prefer smaller	32.5	51.3	
Preference of brands despite higher price			0.000
I have at least one love brand	85.1	56.2	

Source: results of the authors´ research

As it is apparent from the Table 3 older generation significantly prefers smaller purchases. There are various reasons why it is so. First is that the households of Baby boomers are often already households of elderly people and therefore smaller (empty nest stage). Second is that in case they are already retired the income is smaller and therefore consumption decreases. And another reason is that this generation is used to purchasing more often and buying fresh in smaller amounts hence stocking less.

Most of the interviewed *had love brands* that they *prefer despite their higher price.* Some of them though, wait for the love brand to be on sale before they purchase it. Generations

significantly differ in their love for brands, because more than three quarters of X (85.1%) have "the Brand" but only a little over a half (56.2%) of older generation has a brand that they really prefer.

When we researched if the change of budget has an effect on preferring a love brand despite its price. We found out that there is a significant difference (p=0,012) between groups that had positive and negative a change in their budget (often connected purely to change of income). It is not surprising that *those that had an increase in their budget are more keen to prefer love brands* over other brands or non-brands, despite their higher price.

Both generations under the word "brand" understand the name of a certain product. In first associations they do not distinguish between brands of producers and brands of retail chains also called private labels. On the other hand when asked directly about retail chains brands - private labels - they understand and see the difference.

Tab. 4: Recognition and perception of private label

	Generation X %	Baby boomers %	Pearson Chi-Square
I know what private label are			0.247
I know at least one private label	97.3	91.8	
Perceiving the difference in quality of brands compared to private labels			0.933
I think private labels have equally good quality	52.7	54.8	

Source: results of the authors´ research

When it comes to *judging about the quality based on the brand* (brand vs. private label) members of both generations have approximately *the same level of confidence about quality of private labels* (Table 4). Those who trust in the quality of private labels justify it by their own experience or by the fact that according to their knowledge private labels are produced by well-known producers (those that produce brands that are known). Therefore in the perception of the consumer the quality of private label is granted by the producer, whose reputation is seen by a buyer as a guarantee. On the other hand, those who doubt the quality of private labels usually are discouraged by a low price or their own experience. The products that were lower quality were mainly fruit juices, chocolate or cheese.

Researching the purchasing of the private labels further we asked which private labels the respondents buy and what type of private label products (see Table 5).

Tab. 5: Private labels purchase

	Generation X %	Baby boomers %	Pearson Chi-Square
Purchasing private labels (generally)	91.9	89.0	0.304
Purchasing private labels of **Lidl**	78.4	60.3	0.007
Purchasing private labels of **Tesco**	56.8	33.6	0.001
Purchasing private labels of **Billa**	37.8	35.6	0.746

	Generation X %	Baby boomers %	Pearson Chi-Square
Purchasing private labels of **Kaufland**	37.8	28.1	0.141
Purchasing private labels of **Coop Jednota**	20.3	32.9	0.051
Private label products purchased			
Milk products	86.5	74.7	0.043
Personal hygiene products	36.5	34.2	0.742
Frozen products	24.3	25.3	0.869
Smoked products	24.3	21.9	0.687
Beverages	21.6	24.0	0.696
Canned food	20.3	14.4	0.265
Cosmetics	14.9	19.2	0.429
Private label customer satisfaction			
Satisfied	91.9	88.4	0.418

Source: results of the authors´ research

The majority of respondents is buying private labels. The most popular among respondents are Lidl´s and Tesco´s private labels. Generation X buys both of them to a greater extent than the older generation. Both of these are significantly more attractive for X. The only private label more popular among senior generation than among X is Coop Jednota´s.

When it comes to popularity of different assortment items of private labels, the most purchased are milk products. When answering this question, some participants emphasised that *before buying private label* milk products they always *check who actually produced it* and *only after that they decide if they want to buy it.* The producer is judged according to quality of *other brand products that he produces*. If the producer is not known to the customer, than the country of origin comes to consideration. The second most popular private label assortment items are personal hygiene products followed by frozen food products, smoked products, beverages, canned food products and cosmetic products. There are no significant differences between generations in preferred assortment except for milk products - which are significantly more preferred by Generation X than older generation. Vast majority of participating consumers - 91.9% of X and 88.4% of Baby boomers are *satisfied with the private labels quality.*

When researching the impact of budget change on the private label purchase, we found out that there is significant difference (p=0.002) in the purchase of private labels between interviewed based on if their budget has or has not been changed. Those *whose budget had been changed buy private labels more* than those with stable budget. And there is also a significant difference between these two groups in the purchase of the private labels from Lidl (p=0.024) that is widely seen as a discount supermarket.

CONCLUSION

Based on the results of the research, we came to the following profiles of middle and older generation.

Among *Generation X* food is usually prepared from scratch with a help of semi-prepared or convenience products, since it saves time and, if necessary, the food is immediately available. Private labels are part of their daily purchases, the most often bought in retail chain Lidl or Tesco. This finding is in line with researches done regulary in this field by research agencies such as TNS or GfK. The most purchased are private labels of milk products, followed by personal hygiene products, frozen food products, smoked products, beverages, and canned food products.

Compared to the past their budget for daily shopping has increased due to their income growth and reduction of expenses on household equipment. For this reason, as customers, they feel more free to buy what they want.

Members of *older generation* - *Baby boomers* - prepare meals usually from scratch. Convenience food is not used often by many but there is a group of those that use it more often, mainly because they do not see it as efficient to cook from scratch for such a small household. Just as the researched literature outlines, the lack of finances and excess of time as well as change of preferences and life goals brings new approaches to consumption and product choice.

Private labels are part of the daily purchases. The most prevalent private brands are from retail chain Lidl. Other private labels are more or less equally purchased. Assortment structure is similar to Generation X, only milk products and canned food account for a slightly smaller share.

Some of them see that, compared to the past, their budget has been reduced. A part of them feels it as a negative experience to not be able to afford what they want. On the other hand some have just reduced their requirements and expectations.

According to the results a brand plays an important role in purchasing process of both generations as it is a desired item as well as it helps them to get oriented in what quality to expect. When deciding about private label, they often compare private label with brand product of the same kind. They also try to choose private labels based on their producers, if they are known as producers of reliable brands, the private label is seen as trustworthy.

It is not a surprise that change of budget has impact on both: preference for brand products as well as purchase of private labels. With decrease of purchase budget consumers waive their love and desire for brands and decide to buy private labels from known producers instead. But

when it comes to evaluation, a vast majority of interviewed consumers was satisfied with the quality of the private label products which they buy.

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Banking Crisis in Central and Eastern Europe

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Abstract: The aim of the study is to identify leading macroeconomic indicators using multivariate linear regression, causing or coinciding with systemic banking crises within the core CEE area: Bulgaria, Hungary Romania, the Czech Republic, Poland, and the Slovak Republic. The clear focus on systemic banking crisis leaves little ambiguity of what constitutes a banking crisis. The macroeconomic leading indicators are chosen with economic theory and data availability in mind. The indicators are tested using a linear multivariate regression with a dichotomous variable for systemic banking crisis or no systemic banking crisis. The indicators are GDP, GDP per capita, GDP growth, inflation measured by CPI, real exchange rate, domestic credit in percent of GDP, and current account deficit or surplus in percent of GDP.

Keywords: systemic banking crisis, leading indicators, macroeconomic fundamentals, political economy, external shock

JEL Classification codes: G01, G20, B26, E44

INTRODUCTION

In Central and Eastern European countries, bank financing plays a crucial role while public equity markets play a secondary role. For growth and prosperity of the region, a well-functioning banking system is a must. A systemic banking crisis is an example of extreme turbulence in the financial markets. Researching systemic banking crises is helpful since it can lead to a higher level of predictability and better policy responses. The importance of predicting and mitigating systemic banking crises cannot be underestimated given the impact on an economy in the form of falling aggregated output along with the problems it brings.

For example, in the great American Recession from December 2007 to July 2009, unemployment increased by seven percent over normal down-phase-cycle-unemployment, government debt increased due to both the direct cost of the crisis as well as a smaller GDP base. The situation was similar in other countries hit by the crisis (Reinhart & Rogoff 2009).

The example above illustrates the importance of learning more about financial crises, its causes, and policy implications.

Both in developed and developing/emerging economies, systemic banking crisis occurs within regular intervals. The number of systemic banking crises since 1970 to 2011 amounts to 147 (Laeven & Valencia 2013).

A common scenario of a banking crisis is that there are imbalances built up in assets, creating asset bubbles. The asset bubbles often are fueled by a rapid credit expansion and possibly capital inflow (Reinhart & Rogoff 2013).

To determine which macroeconomic leading indicators cause systemic banking crisis is difficult, consequently for stringency it is preferable to examine leading macroeconomic indicators that precede and/or coincide with systemic banking crises.

The study uses a multinomial linear regression with a dichotomous variable for systemic banking crisis or no systemic banking crisis. That means that a country with a banking crisis in a specific year is indicated with a 1 and if there is no banking crisis for a given country in a specific year it is marked with a 0.

1 LITERATURE REVIEW

The first attempts of EWS for systemic banking crises in earnest is the Santomero and Vinso study from 1977. It was done in the aftermath of the banking crisis in the United States of 1974-1976. In 1976 fourteen banks ceased operations due to financial distress. It was the highest number of bank closures since 1942. However, the argument is against more regulations since it raises the cost of capital and the risk for systemic bank failure is small in the United States. The research is based on nine years of weekly banking data, from 300-400 banks. The number of banks changed during the time period. Indicators found to be significant include; capital to asset ratio, total asset value, and total capital accounts. The jump size, rate of change from one period to the next, also seems to be an important indicator. The capital account is the most significant factor. The systemic part is based on the number of banks having suboptimal ratios (Santomero & Vinso 1977).

Reinhart and Rogoff (2014) create an expose of over 800 years of financial crisis. It is an opus of financial crises. It starts with the sovereign default in England in the fourteenth century and finishes with the American subprime mortgage crisis. It was first published in 2008 but the longer version from 2014 is more up to date regarding the subprime mortgage crisis. What is unique is that the study uses data to explain the crisis instead of just qualitatively explaining the reason, result, and outcome. Interesting findings include the fact that countries tend to fail in the transition from an emerging market to an advanced economy. The "this time it is different" refers to human short memory and since different crises are separated by a number

of years, making decision makers believe that this time it is different. The overall conclusion is that economic and financial crises start at financial or political hubs and spread throughout the economic system. The reasons historically have been through falling asset and commodities prices as well as rising interest rates. The reasons are asset bubbles, overinvestments, government defaults, and external shocks. The subprime mortgage crisis in the United States followed the general recipe for a crisis and does not look unique historically. The subprime mortgage crisis was due to an asset bubble in residential-real-estate and an interest rate increase (Reinhart & Rogoff 2014).

The main goal of the authors' research is to determine the long-run macroeconomic implications of significantly higher levels of public and external debt in both advanced and emerging economies. For the emerging markets, 24 countries tested in the sample and data from 1900 to 2009 reveal that with a government debt above 90%, inflation will exceed 16% on average, but if the government debt is 30%, inflation will not exceed 7% on average (Reinhart & Rogoff 2010). In conclusion, a high level of government debt can lead to sluggish economic growth in advanced economies. In emerging markets, high levels of government debt lead to both sluggish economic growth and higher inflation. Both sluggish growth and high inflation are leading indicators for a systemic banking crisis.

Generation one and two early warning models come in two main varieties: the first one uses several indicators as suggested by Kaminsky, Lizondo, & Reinhart (1998) and Goldstein, Kaminsky, & Reinhart (2000).

The second variety uses logit models as suggested by Frankel & Rose (1996) and Berg & Pattillo (1999).

Jeff Frankel and George Saravelos developed a model for leading indicators in 2010 (Frankel & Saravelos 2010) in their study they examined evidence from the 2008-09 global crisis. It is one of the several studies on early warning indicators trying to recognize variables that expose the occurrence of the 2008-09 Great Recession. In November 2008, the IMF was asked by the G20 to conduct a study on early warning indicators to provide early warning of financial risk as well as macroeconomic risk. The crisis hit broadly and worldwide in the same time frame. It truly was a global crisis, where contagion (spill-over effects) can be evaluated.

It is mainly a meta-analysis since the authors, Jeff Frankel and George Saravelos are examining 80 studies with leading indicators. The main question is if leading indicators can help explain the cross-country incidence of the 2008-09 financial crisis. It is investigating the

cross-country incidence by reviewing more than 80 studies instead of researching possible indicators.

For the crisis of 2008-09, the study covers six different variables with the aim to measure the cross-country incidence:

- Decline in GDP,
- Industrial production,
- Depreciation of the currency,
- Stock market performance,
- Central Bank reserve losses, or
- Participation in IMF programs.

The findings show that the Central Bank reserve levels in 2007 showed statistical reliability as a significant leading indicator of the 2008-09 crisis. Also, historical moves in the real effective exchange rate and/or changes of the exchange rate regime from fixed to floating exchange rate or to a less managed float, indicate a weakening of the currency and pressure from foreign exchange markets as a factor triggering a crisis.

Commentary and conclusions: A weakening currency and a change of currency regimes lead to currency turbulence, and therefore a change in real exchange rate. Not a very interesting finding, since it is finding the obvious. However, the study gives a thorough evaluation of early warning indicators in the literature. The indicators were tested in the 2008-09 crisis. The top two indicators are according to the tests: real exchange rate overvaluation and international reserves. The indicators can be used to create a comprehensive measure - the exchange market pressure index (EMP). The EMP can be used to evaluate the risk of a currency crisis. Indicators lowering the risk of a currency crisis were also detected and the major ones are lower past credit growth, larger current account/savings rates, and lower external and short-term debt (Frankel & Saravelos 2010).

Matthieu Bussiere and Marcel Fratzscher (Bussiere & Fratzscher 2006) developed an early warning system. The main aim is to prove that their new EWS model is far better than the existing models. A secondary aim is to test economic and financial variables with an emphasis on contagion indicators to assess the level of transmission of financial and real economic impacts between countries. Testing for contagion renders this model a generation 3 type.

The authors develop a new Early Warning System or EWS model in short. The purpose of the EWS model is to predict future financial crises before they occur. The model is based on a multinomial logit model. Binomial discrete-dependent-variable models are influenced by

what the authors call post-crises-bias. This particular bias occurs when no difference is made between crises periods and non-crises periods. In the more tranquil periods, the economy is mainly sound, stable, and there is no major disequilibrium in any areas of the economy. In the periods during and after a crisis the economic parameters go through change, find a new equilibrium at sustainable levels, and the growth of the economy can start again. Therefore, the author shows that the multinomial logit model avoids the post crises bias due to the fact that the model allows for two states of nature. Hence, according to the authors, it shows a significant improvement compared to binomial discrete models previously used in forecasting financial crises and turbulence. Contagion influences the macroeconomic factors - it might be a contagion, but it can also be due to other factors. There is a qualitative analysis for knowing which factor caused a banking crisis (Bussiere & Fratzscher 2006).

The main findings of the study are that financial contagion is a crucial factor explaining as well as predicting currency crises in 32 emerging market economies between 1993 and 2001. The authors claim that the model they had developed is superior to previous EWS models and that the multinomial logit model could have predicted most financial crises in emerging markets in the said time period. The model misses completely in predicting one crisis. The study generates outcomes helping to design EWS models that can support policy makers. A new element is the loss function that indicates risk of unanticipated financial crises. It creates a trade-off between false alarms and the risk of missing crises. Thus the policy makers' risk aversion can be incorporated into the model.

The authors also elaborate the benefits for policy makers in decision making with more information than the previous models could provide. Using the model allows policy makers to mitigate or lessen the impact of financial crises and possibly also to prevent financial distress. The authors stress that the model does not replace good and sound judgment but it can significantly support the policy maker with an unbiased, impartial measure of susceptibility to a crisis (Bussiere & Fratzscher 2006).

2 THE TESTING

The data used for the empirical study is available at the World Bank's database (The World Bank n.d.). The data are sorted into a pooled time series with data from 1994-2014 for the chosen macroeconomic leading indicators and the countries tested. The test is done with a linear multivariate regression in STATA, a statistical analysis software package. The countries tested are core CEE countries, Bulgaria, the Czech Republic, Hungary, Romania, and Slovakia. These countries have been chosen to reflect a distinct European region. The

sample contains enough periods with and without crisis. Due to the availability of data, the time series starts in 1994 and ends in 2014. The Czechoslovak divorce also plays a major role in why earlier data is difficult to use.

Tab. 1: Countries and year of systemic banking crisis

CEE		
1. Bulgaria 96-97	3. Hungary 94-95 &08	5. Romania
2.Czech Republic 96-00	4. Poland 94	6. Slovak Republic 98-02

Source: Laeven, & Valencia 2013

Research question /hypothesizes

The following hypothesis answers the main empirical research question. Which of the seven chosen macroeconomics leading indicators are causing or coinciding with systemic banking crisis for the chosen sample of the six core CEE countries? The following table shows the leading indicators or variables as well as the expected result. The test is conducted at the 95% confidence interval. That is if the coefficient from the regression in within the interval. A high t-value also is a strong indicator for a statistically significant result. A small P-value is a reason to reject the null hypothesis. R-squared values are of less importance in multivariate linear regression since all independent variables are unlikely to be statistically significant. Still, a high R-Squared value indicates that the significant independent variables explain a lot of the outcome.

Tab. 2: Leading Indicators

Variable	Leading indicators and definition	Expected sign	Result
bc	Banking crisis with value of 1 for the crisis and 0 otherwise	n/a	n/a
(1) gdp	Gross domestic product of a country. Measured at purchaser's prices	-	-
(2) gdpg	Growth of the economy measured by GDP growth as the annual percentage change in GDP in local constant currency	-	-
(3) gdpc	GDP per capita divided by midyear population. Data are in current U.S. dollars.	-	-
(4) cpi	Inflation as in change in consumer prices measured with CPI in local constant currency	+	+
(5) rer	The percentage change in the Exchange Rate. The year 2010 is the base year and set at 100	-	-
(6) dc	Domestic credit from financial sector in percent of GDP	+	+
(7) cagdp	Current account deficit surplus in percent of GDP	+	+

Tab. 3: Regression results

bc	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
gdp	4.10E-14	2.63E-13	0.16	0.876	-4.80E-13	5.62E-13
gdpg	-0.00873	0.0091604	-0.95	0.342	-0.02687	0.009406
gdpc	-1.57E-06	7.36E-06	-0.21	0.832	-1.6E-05	0.000013
cpi	0.000579	0.0002843	2.04	0.044	1.61E-05	0.001142
rer	-0.00868	0.0021907	-3.96	0	-0.01302	-0.00434
dc	0.004499	0.0016622	2.71	0.008	0.001207	0.007791
cagd	0.003099	0.0070497	0.44	0.661	-0.01086	0.017059
_cons	0.656083	0.1903324	3.45	0.001	0.279173	1.032993

3 RESULTS

To begin, the GDP or size of the economy is insignificant in regard to systemic banking crisis or not. A slow growth rate of GDP seems to be a key factor in triggering a systemic banking crisis though it is not strongly statistically significant. The results from the panel regression of the six CEE countries indicates that sluggish GDO growth does increase the risk of a systemic banking crisis. This is in line with what we would expect as higher economic growth encourages investment, reduces the probability of default to bank loans, and increases the income of borrowers and investors alike. Growth makes it easier to meet the financial obligation (Demirguc-Kunt & Detragiache 1997).

GDP per capita, which measures the level of development is insignificant which is not surprising given that the countries are fairly similar with a somewhat similar economic development. Also, we can see that there are no fewer banking crises in advanced economies in comparison with emerging (Laeven & Valencia 2013).

Inflation (proxied by the percentage change in the consumer price index) turns out to be a trigger of a systemic banking crisis. High inflation is a sign of weak macroeconomic fundamentals, but also a sign of political weakness and non-independent central banks (Alesina & Summers 1993). An inflation driven systemic banking crisis occurred in Scandinavia in 1990. According to Englund (1999), Sweden experienced high inflation prior to the systemic banking crisis of 1990-1995. Inflation was higher than for the members of European Rate Mechanism, (ERM). Swedish inflation was in double digits (10.5%) in 1990 and at 9.3% 1991. ERM took a major blow on September 16 in 1992, the so-called Black Wednesday, when the UK could not maintain the previously agreed on lower rate. Interestingly the UK also had high inflation in 1989-1991. Italy was also forced to opt out. (Buiter, Corsetti, & Pesenti 2001). What the troubled countries have in common is high inflation. The high inflation led to an overvalued currency and since the exchange rate was fixed against the fictive currency, the ECU central banks had to defend the exchange rate depleting their reserves. For inflation data and central bank reserves see World Bank (n.d.). Consumer price index, which is a measure of macroeconomic stability, seems to have played a significant role in explaining the occurrence of a systemic banking crisis (Demirgüç-Kunt & Detragiache 1998). Inflation seems to be a universal leading indicator for banking crises. Inflation also fits with the banking crises in the CEE. The CEE countries suffering a systemic banking crisis after the fall of communism all experienced high inflation. In reality, the real interest rates must have been negative. Only Hungary suffered a banking crisis in 2008. Interestingly their inflation was higher than the other countries in the sample in both 2007 and

in 2008 with the exception of Bulgaria. Since countries are not always comparable it is better to look at peaks in an individual country's inflation. Slovakia saw a high inflation increase during the banking crisis of 1998-2002. The crisis was over in 2002 when Inflation was back under control.

The role of exchange rate policy measured here as real exchange rate change explained the probability of a systemic banking crisis. This suggests countries with overvalued domestic currencies are more prone to suffer from a systemic banking crisis than those in the opposite camp. However, to have a strong currency is also indicated by the real exchange rate and the countries with a high level of real exchange rate are more competitive and therefore less prone to a systemic banking crisis. The European currency crisis in early 1990 when several European countries had to give up their peg against the ECU is a good recent example. (Obstfeld, 1996). As earlier stated the countries that had to give up the peg of their currency exchange rate against the ECU basket all ran a higher inflation than their major trading partners in Europe. The real exchange rate deteriorated and they consequently suffered from a systemic banking crisis. The exchange rate (measured as real exchange rate) seems to have played a key role in explaining the occurrence of a systemic banking crisis. There is a clear connection between exchange rates and inflation. As in the case of South America with sudden devaluations as an illustrative example; Argentina defaulted on its sovereign debt and devalued in 2001 (Da-Rocha, Gimenez, & Lores 2013). Then Argentine devaluated its currency again in 2014 (Pan, 2015). Brazil devaluated its currency, the Real in 1999 (Perry & Forero 2014). Mexico in 1994 (Sachs, Tornell, & Velasco 1996). A possible conclusion is that a high real exchange rate is an indicator of an overvalued currency in South America and the crisis starts when the currency is devaluated. However, for newly liberalized countries like the CEE six, the risk of an overvalued currency is non-existent. Therefore a strengthening real exchange rate is a sign of a stronger economy and there is less risk of a systemic banking crisis. The results also clearly show that the increase in real exchange rate decreases the risk of a banking crisis.

Domestic credit in percent of GDP seems to have triggered the probability of a systemic banking crisis as indicated by a positive and statistically significant coefficient. This suggests that higher domestic credit in percent of the economy’s output measured with GDP increases the probability of defaults on bank loans and therefore upsurges the probability of a systemic banking crisis (Allen & Gale 2000). The result from the regression supports the hypothesis of the more outstanding credits, the higher the risk for the banking system. Likewise, the coefficient on the current account balance indicates that systemic banking crisis is a

phenomenon of countries with current account deficits. This factor does not bear the expected sign and therefore failed to significantly explain a systemic banking crisis. However, the country's most severely affected by the European sovereign debt crisis had a significantly large current account deficit in percent of GDP both prior to the crisis and during the early part of the crisis (Giavazzi & Spaventa 2011).

As expected, emerging economies suffering from current account deficits seem to have suffered from a systemic banking crisis. Another risk is if the deficit is covered with so-called hot money, which is money that will leave at the slightest disturbance. If the financing of the deficit disappears, then new financing is needed and may be difficult to obtain. Foreign investors may have lost confidence in the economy, therefore making it more difficult to cover the current account with inwards investments. (Obstfeld & Rogoff 2009). Lastly, a high current account deficit is a sign of an uncompetitive economy based on consumer spending on imported goods and services (Marchetti, Ruta, & Teh 2012).

CONCLUSION

To conclude; all leading indicators received the expected sign in the regression except GDP. When manually examining the data it is clear that inflation, real exchange rate, and domestic credit are the three coachmen of a systemic banking crisis. A main open issue is that the indicators are leading, lagging, and coinciding with the banking crisis. Still, the result is robust for inflation, and domestic credit as an indicator of a higher risk of a systemic banking crisis.

It leaves little doubt about inflation as a leading indicator for a systemic banking crisis. The current account in percent of GDP indicates that a large current account deficit increases the risk of a systemic banking crisis. The credit worthiness, political heritage, and geopolitical situation differ between the countries (Tiruneh 2004).

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